XR-1750

SERVICE MANUAL

Ver 1.1 2001.04

US Model
E Model
Australian Model

Model Name Using Similar Mechanism	NEW
Tape Transport Mechanism Type	MG-52A-135

SPECIFICATIONS

AUDIO POWER SPECIFICATIONS (US model)

POWER OUTPUT AND TOTAL HARMONIC DISTORTION
13 watts per channel minimum continuous average power into 4 ohms, 4 channels driven from 20 Hz to 20 kHz with no more then 1% total harmonic distortion.

Cassette player section

Tape track	4-track 2-channel stereo
Wow and flutter	0.08% (WRMS)
Frequency response	30 – 20,000 Hz
Signal-to-noise ratio	58 dB

Tuner section

FM

Tuning range	US model: 87.5 – 107.9 MHz E, Australian model: 50 kHz/200 kHz switchable 87.5 – 108.0 MHz (at 50 kHz step) 87.5 – 107.9 MHz (at 200 kHz step)
Antenna terminal	External antenna connector
Intermediate frequency	10.7 MHz
Usable sensitivity	8 dBf
Selectivity	75 dB at 400 kHz
Signal-to-noise ratio	65 dB (stereo), 68 dB (mono)
Harmonic distortion at 1 kHz	0.5% (stereo), 0.3% (mono)
Separation	35 dB at 1 kHz
Frequency response	30 – 15,000 Hz
Capture ratio	2 dB

AM

Tuning range	US model: 530 – 1,710 kHz E, Australian model: 9 kHz/10 kHz switchable 531 – 1,602 kHz (at 9 kHz step) 530 – 1,710 kHz (at 10 kHz step)
Antenna terminal	External antenna connector
Intermediate frequency	10.71 MHz/450 kHz
Sensitivity	30 µV

Power amplifier section

Outputs	Speaker outputs (sure seal connectors)
Speaker impedance	4 – 8 ohms
Maximum power output	35 W × 4 (at 4 ohms)

General

Outputs	Power antenna control lead Power amplifier control lead Rear line out (1)
Tone controls	Bass ±8 dB at 100 Hz Treble ±8 dB at 10 kHz
Power requirements	12 V DC car battery (negative ground)
Dimensions	Approx. 188 × 58 × 182 mm ($7^1/_2 \times 2^3/_8 \times 7^1/_4$ in.) (w/h/d)
Mounting dimensions	Approx. 182 × 53 × 161 mm ($7^1/_4 \times 2^1/_8 \times 6^3/_8$ in.) (w/h/d)
Mass	Approx. 1.2 kg (2 lb. 10 oz.)
Supplied accessories	Parts for installation and connections (1 set)

Design and specifications are subject to change without notice.

FM/AM CASSETTE CAR STEREO

9-925-564-12
2001D0500-1
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Sony Corporation
e Vehicle Company
Shinagawa Tec Service Manual Production Group

SONY®

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SERVICING NOTES

Flexible Circuit Board Repairing

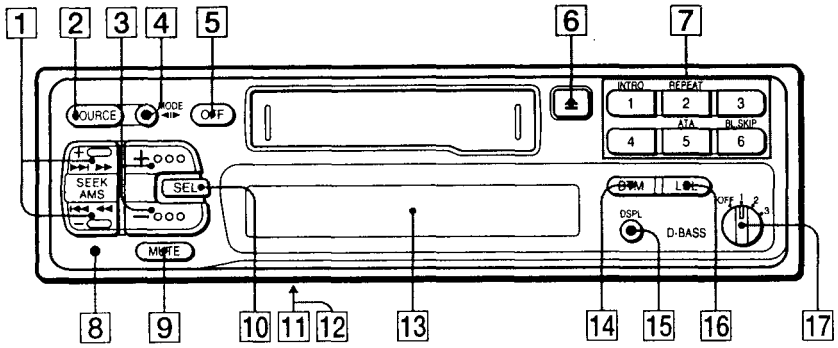
- Keep the temperature of the soldering iron around 270 ˚C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

This section is extracted from instruction manual.

Location of controls



Refer to the pages for further details.

1 **SEEK/AMS button 4, 5, 6**

2 **SOURCE button (TAPE/TUNER) 4, 5, 6**

3 **⊕⊖ (volume/bass/treble/balance/ fader control) button 3, 7**

4 **MODE (◄I►) button**
During tuner reception:
BAND select 5, 6

During tape playback:
Transport direction change 4

5 **OFF button 4**

6 **⏏ (eject) button 4**

7 **During radio reception:**
Preset number buttons 6

During tape playback:
① **INTRO button 4**
② **REPEAT button 4**
⑤ **ATA (Automatic Tuner Activation) button 5**
⑥ **BL.SKIP (Blank Skip) button 5**

8 **Reset button 3**
Press this button when you use this unit for the first time, when you have changed the car battery, or when the buttons of this unit do not function properly.

9 **MUTE button 7**

10 **SEL (control mode select) button 3, 7**

11 **POWER SELECT switch (located on the bottom of the unit)**
See "POWER SELECT Switch" in the Installation/Connections manual.

12 **Frequency Select switch (located on the bottom of the unit) (E, Australian model)**
See "Frequency Select Switch" in the Installation/Connections manual.

13 **Display window**

14 **BTM (Best tuning memory) button 5**

15 **DSPL (display mode change/time set) button 3, 4, 6**

16 **LCL button 6**

17 **D-BASS control 7**

When the positions of switch 11 and 12 have been changed, be sure to press the reset button after connecting power.

Installation (US model)

Precautions

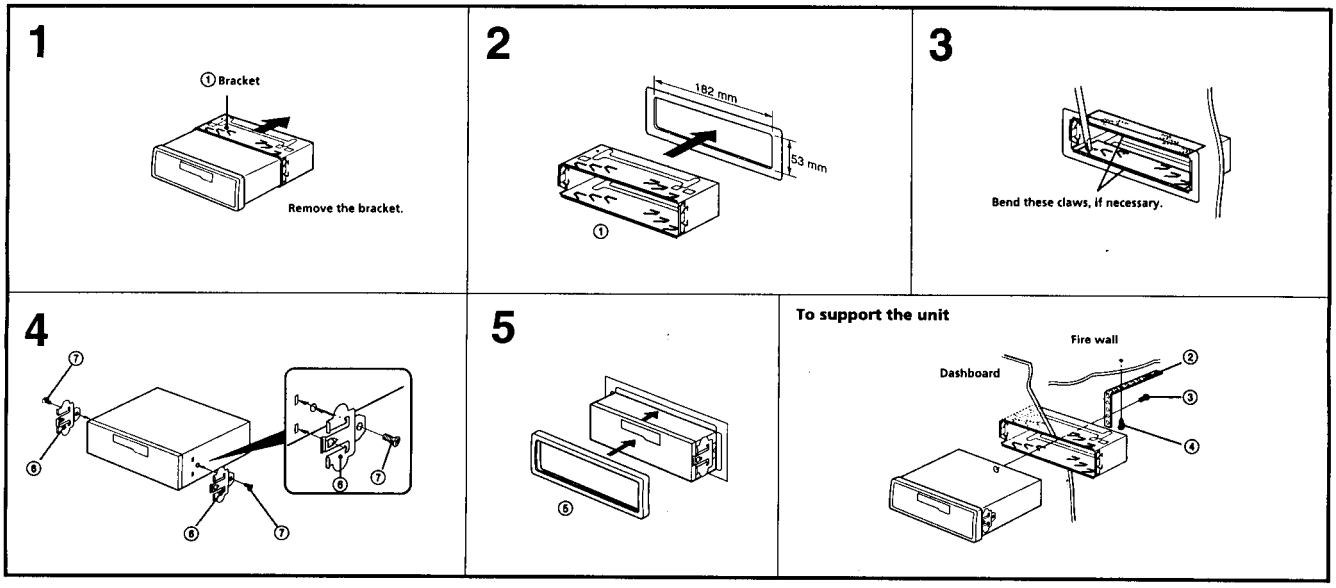
- Choose the installation location carefully so that the unit will not hamper the driver during driving.
- Avoid installing the unit where it would be subject to high temperatures, such as from direct sunlight or hot air from the heater, or where it would be subject to dust, dirt or excessive vibration.
- Use only the supplied mounting hardware for a safe and secure installation.

Mounting angle adjustment

Adjust the mounting angle to less than 20°.

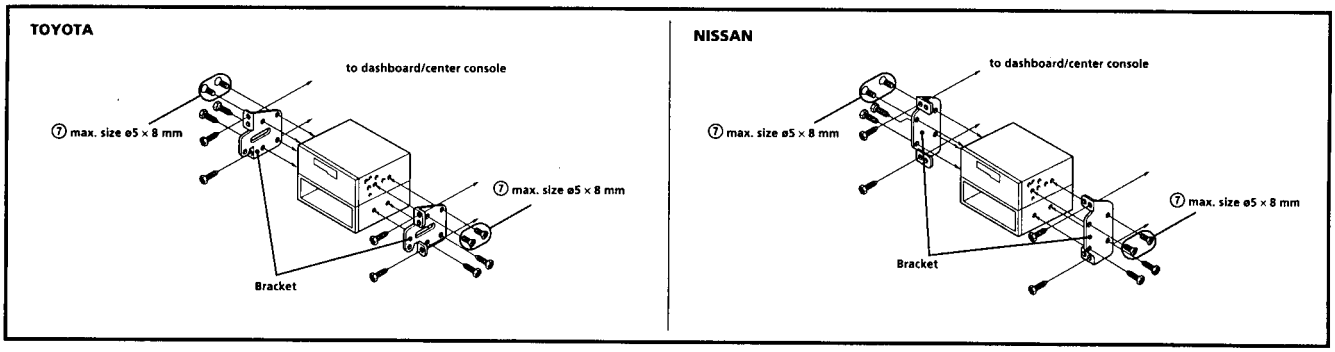
Mounting Example

Installation in the dashboard



Mounting the Unit in a Japanese Car

You may not be able to install this unit in some makes of Japanese cars. In such a case, consult your Sony dealer.

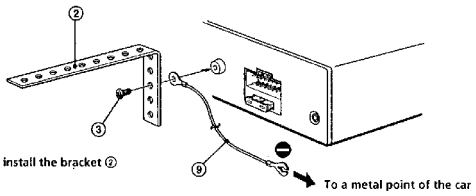


Note

To prevent malfunction, install only with the supplied screws ⑦ and use existing parts supplied to your car.

Note for Connecting

If there is alternator noise (a whining sound when the engine increases speed), ground the master unit by connecting it to a metal point of the car with the supplied chassis ground cord ⑨. Connect the ground cord to the master unit with a screw ③. (See illustration.)



Installation
(E, Australian model)

Precautions

- Choose the mounting location carefully so the unit does not interfere with normal driving operations.
- Avoid installing the unit where it would be subject to high temperatures, such as from direct sunlight or hot air from the heater, or where it would be subject to dust, dirt or excessive vibration.
- Use only the supplied mounting hardware for safe and secure installation.

Mounting angle adjustment

Adjust the mounting angle to less than 20°.

Instalación

Precauciones

- Elija cuidadosamente el lugar de montaje de forma que la unidad no interfiera las funciones normales de conducción.
- Evite instalar la unidad donde pueda quedar sometida a altas temperaturas, como a la luz solar directa o al aire calienete de calefacción, o a polvo, suciedad, o vibraciones excesivas.
- Para realizar una instalación segura y firme, emplee solamente la ferretería de montaje suministrada.

Ajuste del ángulo de montaje

Ajuste el ángulo de montaje a menos de 20°.

安裝

使用前須知事項

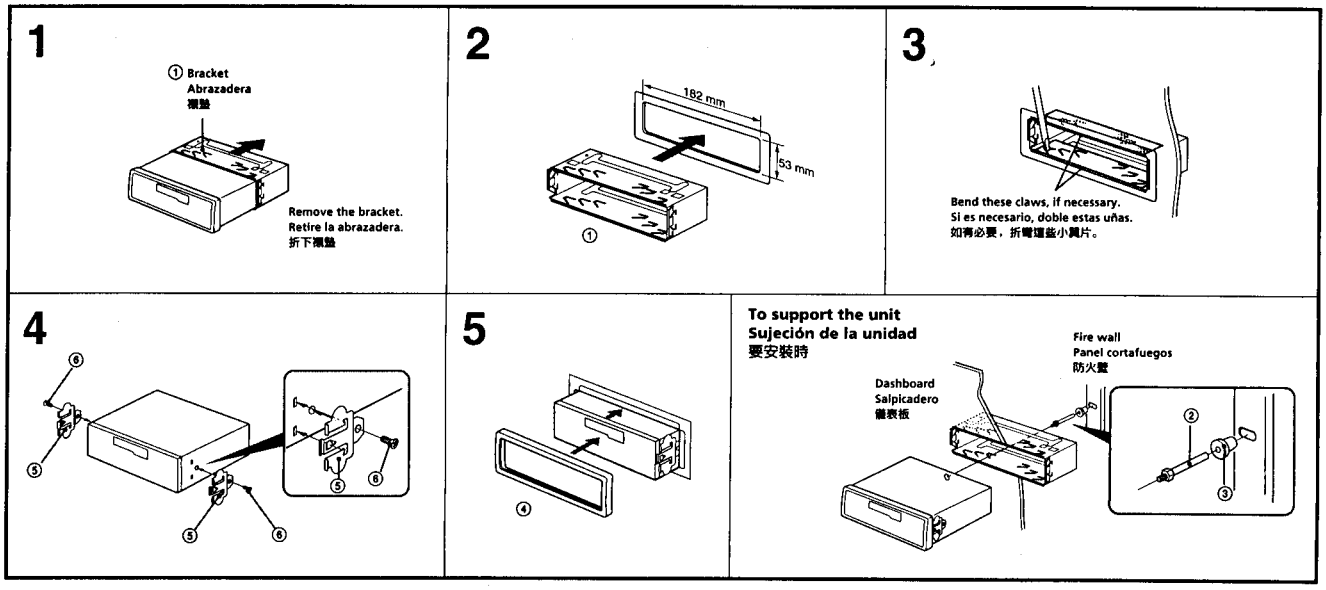
- 本機請放在不妨礙司機駕駛之處。
- 避免把本機放在高溫之處，如陽光直接照射、暖氣機前、或灰塵極多、髒亂及易受震動等地方。
- 為了安全起見，安裝時請使用附屬的安裝道具。

安裝角度之調整

請在 20 度以內調整安裝角度。

Mounting example

Installation in the dashboard



Ejemplo de montaje

Instalación en el salpicadero

安裝例子

安裝於儀表板上

Mounting the Unit in a Japanese Car

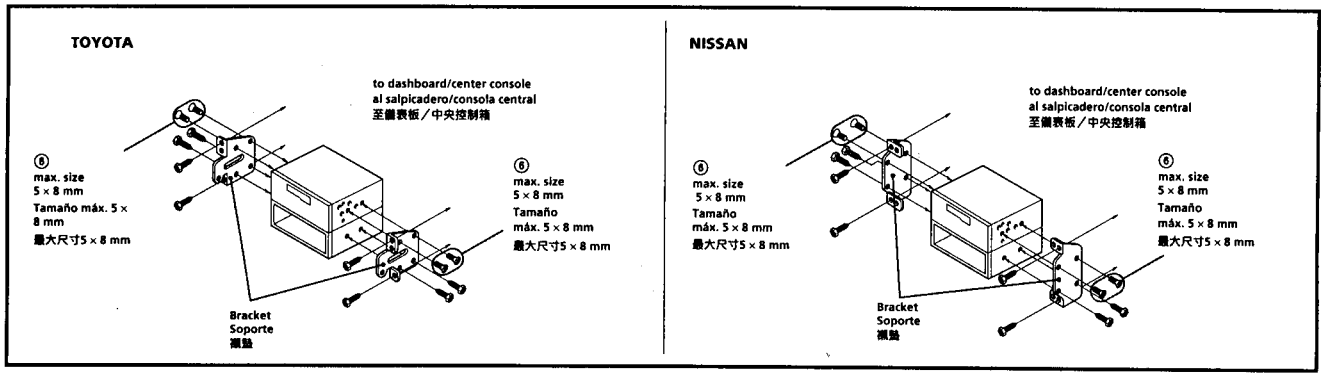
You may not be able to install this unit in some makes of Japanese cars. In such a case, consult your Sony dealer.

Montaje de la unidad en un automóvil japonés

Usted no podrá instalar esta unidad en algunos sutomóviles japoneses. En tal caso, consulte a su proveedor Sony.

要安裝於日本汽車裡

有的汽車不能安裝本機，此時，請向離貴地最近的 Sony 經銷店查詢。



Note

To prevent malfunction, install only with the supplied screws ⑥ and use existing parts supplied with your car.

Nota

Para evitar que se produzcan fallos, realice la instalación solamente con los tornillos suministrados ⑥ y utilice los componentes suministrados para el automóvil

註

為防止發生意外事故，安裝時只能使用附屬的螺絲⑥及汽車所附屬的部件。

Note for Connecting

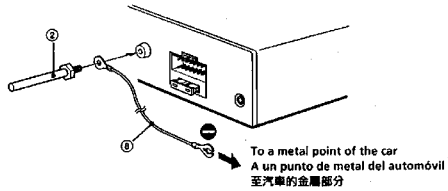
If there is alternator noise (a whining sound when raising engine speed), earth the master unit by connecting it to a metal point of the car with the supplied chassis earth cord ⑧. Connect the earth cord to the master unit with part ② as shown in the illustration.

Nota sobre conexión

Si el alternador emite ruido (un zumbido al aumentar la velocidad del motor), conecte la unidad principal a tierra y, para ello, enchúfela a un punto de metal del automóvil mediante el cable de toma a tierra del chasis ⑧ suministrado. Conecte el cable de toma a tierra a la unidad principal con la pieza ② como se muestra en la ilustración.

連接須知

如果發現有交流聲（當汽車發動機加速時發生的哼聲）時，請用附帶的底盤接地線⑧將本機接地到汽車的金屬車體部分。利用如圖所示部件②連接主機的接地線。



Connection

Caution

- This unit is designed for negative ground 12 V DC operation only.
- Before making connections, disconnect the ground terminal of the car battery to avoid short circuits.
- Connect the **yellow** and **red** power input leads only after all other leads have been connected.
- Be sure to connect the red power input lead to the positive 12 V power terminal which is energized when the ignition key switch is in the accessory position.
- **Run all ground wires to a common ground point.**
- Connect the yellow cord to a free car circuit rated higher than the unit's fuse rating.
  If you connect this unit in series with other stereo components, the car circuit they are connected to must be rated higher than the sum of the individual components' fuse rating.
  If there are no car circuits rated as high as the unit's fuse rating, connect the unit directly to the battery.
  If no car circuits are available for connecting this unit, connect the unit to a car circuit rated higher than the unit's fuse rating in such a way that if the unit blows its fuse, no other circuits will be cut off.

If Your Car has No Accessory Position on the Ignition Key Switch — POWER SELECT switch

The illumination on the front panel is factory set to be turned on even while the unit is not in use. However, this setting may cause some car battery wear **if your car has no accessory position on the ignition key switch.** To avoid this battery wear, **set the POWER SELECT switch located on the bottom of the unit to the ⓑ position, then press the reset button.** The illumination is reset to stay off while the unit is not in use.

Frequency Select Switch

The AM (FM) tuning interval is factory set to the 9K (50 K) position. If the frequency allocatin system of your country is based on 10 kHz (200 kHz) interval, set the switch on the bottom of the unit the 10 K (200 K) position before making connections.

Reset button

When the installation and connections are complete, be sure to press the reset button with a ball-point pen etc.

Conexiones

Precauciones

- Esta unidad ha sido diseñada para alimentarse con 12 V CC, negativo a masa, solamente.
- Antes de realizar las conexiones, desconecte el terminal de puesta a masa de la batería del automóvil a fin de evitar cortocircuitos.
- Conecte los cables conectores de alimentación **amarillo** y **rojo** solamente después de haber conectado los demás.
- Cerciórese de conectar el cable conector de alimentación rojo a un terminal de 12 V positivo que se energice al poner la llave de encendido en la posición para accesorios.
- **Conecte todos los conductores de puesta a masa a un punto común.**
- Conecte el cable amarillo a un circuito libre del automóvil que tenga una capacidad superior a la del fusible de la unidad.
  Si conecta esta unidad en serie con otros componentes de estéreo, el circuito del automóvil al que se encuentran conectados debe tener una capacidad superior a la de la suma de las capacidades de los fusibles de cada componente.
  Si ningún circuito del automóvil tiene una capacidad tan alta como la del fusible de la unidad, conecte ésta directamente a la batería.
  Si el automóvil no dispone de ningún circuito para conectar esta unidad, conéctela a un circuito con una capacidad superior a la del fusible de la unidad de tal manera que si se funde el fusible de ésta, no se cortará ningún otro circuito.

Si el automóvil no dispone de posición para accesorios en la llave de encendido — Selector POWER SELECT

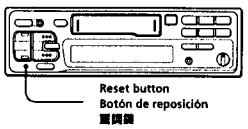
La iluminación del panel frontal ha sido ajustada en fábrica para que esté activada aunque la unidad no se encuentre en reproducción. Sin embargo, este ajuste puede provocar cierta descarga de la batería del automóvil **si éste no dispone de posición para accesorios en la llave de encendido.** Para evitar esto, **ponga el selector POWER SELECT, situado en la base de la unidad, en la posición ⓑ y, después, presione el botón de reposición.** La iluminación estará desactivada cuando la unidad no se encuentre en reproducción.

Selector de frecuencia

El intervalo de sintonía de AM (FM) ha sido ajustado en fábrica a la posición 9K (50K). Si el sistema de asignación de frecuencias de su país se basa en el intervalo de 10kHz (200 kHz), ponga este selector, situado en la base de la unidad, en la posición 10K (200K) antes de realizar las conexiones.

Botón de reposición

Cuando haya finalizado la instalación y las conexiones, cerciórese de presionar el botón de reposición con un bolígrafo, etc.



線路之連接

注意

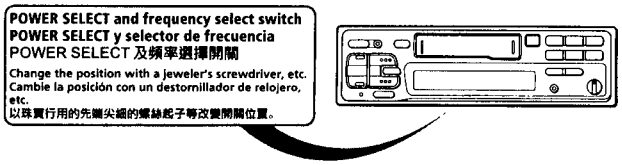
- 本機只能使用負極接地 12 V 直流電源。
- 連接以前，先拔掉汽車電池的接地端子，以免發生短路。
- **紅色**和**黃色**電源輸入導線必須等所有電線都連接完畢以後才連接。
- 紅色電源輸入導線請連接到汽車發動機點火鑰匙被轉在輔助位置時才通電狀態的正 12 V 電源端子。
- **所有地線都必須連接到同一地點才行。**
- 將黃色導線連接到大於機器保險絲額定容量的沒利用的汽車電路上。
  如果把本機和其他立體聲組成機件聯了，所連接的汽車電路容量必須大於各組成機保險絲容量的總和。
  如果沒有和機器保險絲額定容量一樣大的汽車電路可資利用，可把機器直接連接到電池上。
  若無適當的汽車電路可用於連接本機，請把機器連接到大於機器保險絲容量的汽車電路。如此則萬一當機器的保險絲燒斷了，也不致於切斷其他電路。

若要在汽車發動機點火鑰匙開關沒具輔助位置的汽車裡使用時 — POWER SELECT 開關

前板的照明燈在未出廠以前，被設定在即使不使用也會發亮的狀態。**若要在汽車發動機點火鑰匙開關沒具輔助位置的汽車裡使用本機的話，**此照明燈將會一直消耗機件的汽車電池電力。因此為了避免在這種狀態下的電池消耗，**請把本機底下的 POWER SELECT 開關設定在 ⓑ 之處，然後按壓前板的重調鍵。**倘不使用本機時，照明燈便不發亮。

頻率選擇開關

本裝置的 AM (FM) 調諧區間在出廠以前被設定在 "9 K (50 K)" 位置上。若貴地的頻率區間為 "10 kHz (200 kHz)"，連接以前請先把本機機底的選擇開關設定在 "10 K (200 K)" 之處。


POWER SELECT and frequency select switch
POWER SELECT y selector de frecuencia
POWER SELECT 及頻率選擇開關
Change the position with a jeweler's screwdriver, etc.
Cambie la posición con un destornillador de relojero, etc.
以珠寶行用的先端尖細的螺絲起子等改變開關位置。

When you change the position of the switch, be sure to press the reset button after the connections are complete.

Cuando haya cambiado la posición del selector, cerciórese de presionar los botones de reposición después de haber finalizado las conexiones.

改變開關位置時，請一定在連接好機器後按下一個重調鍵。

Reset button

When the installation and connections are complete, be sure to press the reset button with a ball-point pen etc.

Botón de reposición

Cuando haya finalizado la instalación y las conexiones, cerciórese de presionar el botón de reposición con un bolígrafo, etc.

重調鍵

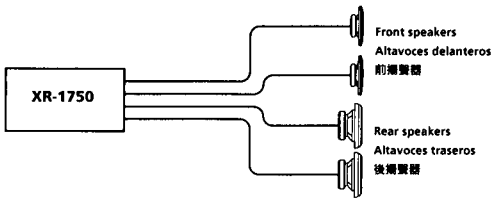
安裝和線路之連接完畢以後，請以原子筆等按壓重調鍵。取下前板時，即可看到重調鍵位於本機連接器左邊。

Connection diagram

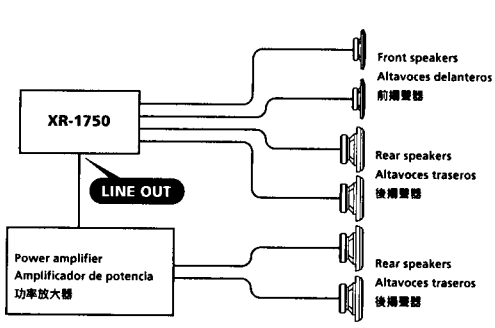
Diagrama de conexiones

線路連接方塊圖

Example 1
Ejemplo 1
例 1

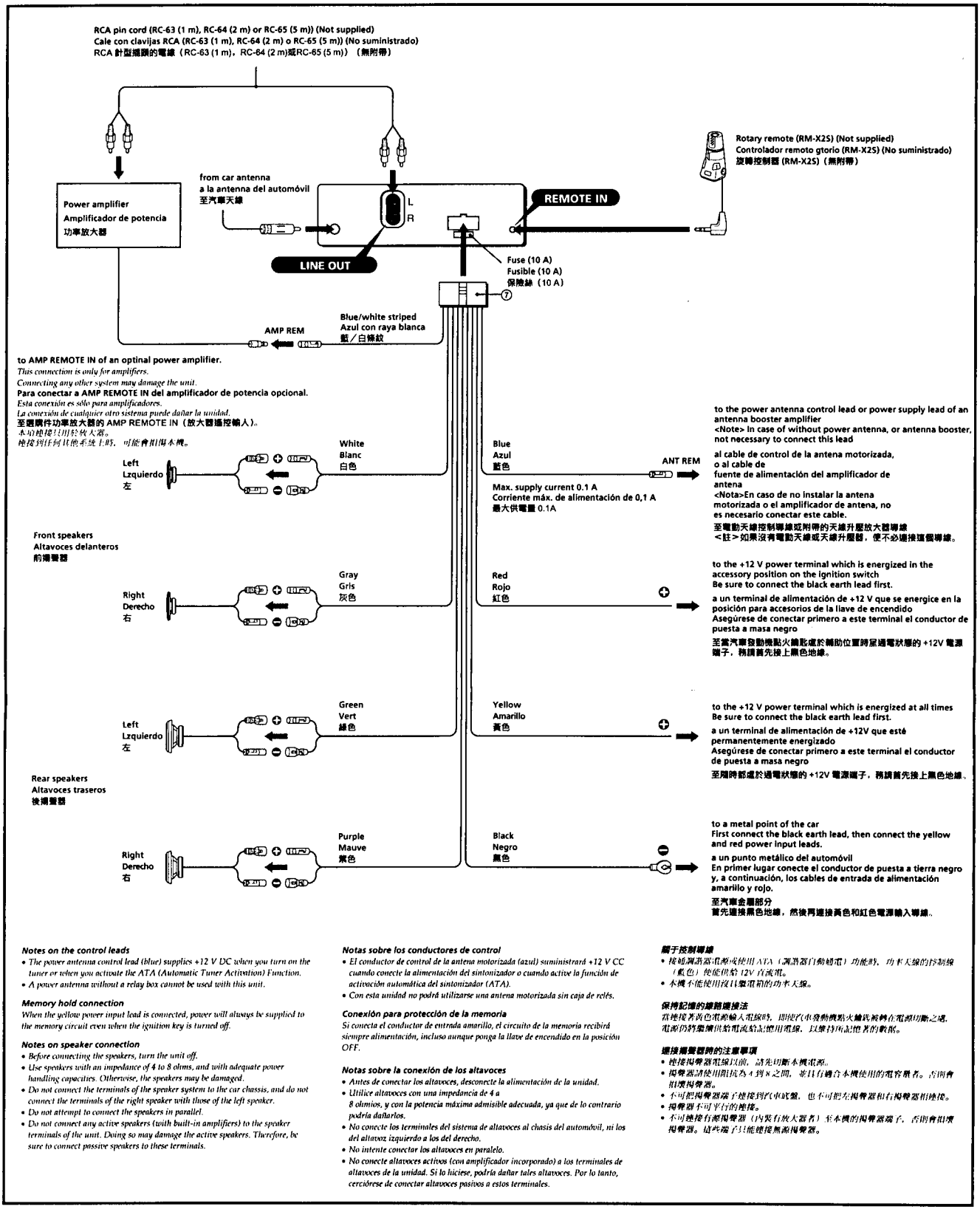


Example 2
Ejemplo 2
例 2



Note
If you connect an optional power amplifier and do not use the built-in amplifier, the beep tone will be disabled.
Nota
Si conecta un amplificador opcional de potencia y no utiliza el incorporado, el pitido se desactivará.
註
如果連接了一選購件功率放大器而不用內裝的放大器，即將不發出嗶聲。

Connection example　　Ejemplo de conexiones　　線路之連接圖例


RCA pin cord (RC-63 (1 m), RC-64 (2 m) or RC-65 (5 m)) (Not supplied)
Cale con clavijas RCA (RC-63 (1 m), RC-64 (2 m) o RC-65 (5 m)) (No suministrado)
RCA 針型纜頭的電線（RC-63 (1 m)，RC-64 (2 m)或RC-65 (5 m)）（無附帶）
Rotary remote (RM-X2S) (Not supplied)
Controlador remoto gtorio (RM-X2S) (No suministrado)
旋轉控制器 (RM-X2S)（無附帶）
from car antenna
a la antenna del automóvil
至汽車天線
Power amplifier
Amplificador de potencia
功率放大器
L
R
REMOTE IN
LINE OUT
Fuse (10 A)
Fusible (10 A)
保險絲（10 A）
Blue/white striped
Azul con raya blanca
藍／白條紋
AMP REM
to AMP REMOTE IN of an optinal power amplifier.
This connection is only for amplifiers.
Connecting any other system may damage the unit.
Para conectar a AMP REMOTE IN del amplificador de potencia opcional.
Esta conexión es sólo para amplificadores.
La conexión de cualquier otro sistema puede dañar la unidad.
至選購件功率放大器的 AMP REMOTE IN（放大器遙控輸入）。
本功能接只用於放大器。
連接到任何其他系統上時，可能會損壞本機。
White
Blanc
白色
Left
Lzquierdo
左
Blue
Azul
藍色
ANT REM
Max. supply current 0.1 A
Corriente máx. de alimentación de 0,1 A
最大供電量 0.1A
to the power antenna control lead or power supply lead of an antenna booster amplifier
<Note> In case of without power antenna, or antenna booster, not necessary to connect this lead
al cable de control de la antena motorizada, o al cable de fuente de alimentación del amplificador de antena
<Nota>En caso de no instalar la antena motorizada o el amplificador de antena, no es necesario conectar este cable.
至電動天線控制導線或附帶的天線升壓放大器導線
＜註＞如果沒有電動天線或天線升壓器，便不必連接這個導線。
Front speakers
Altavoces delanteros
前揚聲器
Gray
Gris
灰色
Right
Derecho
右
Red
Rojo
紅色
to the +12 V power terminal which is energized in the accessory position on the ignition switch
Be sure to connect the black earth lead first.
a un terminal de alimentación de +12 V que se energice en la posición para accesorios de la llave de encendido
Asegúrese de conectar primero a este terminal el conductor de puesta a masa negro
至當汽車發動機點火鑰匙處於輔助位置時呈通電狀態的 +12V 電源端子，務請首先接上黑色地線。
Green
Vert
綠色
Left
Lzquierdo
左
Yellow
Amarillo
黃色
to the +12 V power terminal which is energized at all times
Be sure to connect the black earth lead first.
a un terminal de alimentación de +12V que esté permanentemente energizado
Asegúrese de conectar primero a este terminal el conductor de puesta a masa negro
至隨時都處於通電狀態的 +12V 電源端子，務請首先接上黑色地線。
Rear speakers
Altavoces traseros
後揚聲器
Purple
Mauve
紫色
Right
Derecho
右
Black
Negro
黑色
to a metal point of the car
First connect the black earth lead, then connect the yellow and red power input leads.
a un punto metálico del automóvil
En primer lugar conecte el conductor de puesta a tierra negro y, a continuación, los cables de entrada de alimentación amarillo y rojo.
至汽車金屬部分
首先連接黑色地線，然後再連接黃色和紅色電源輸入導線。

Notes on the control leads

- *The power antenna control lead (blue) supplies +12 V DC when you turn on the tuner or when you activate the ATA (Automatic Tuner Activation) Function.*
- *A power antenna without a relay box cannot be used with this unit.*

Memory hold connection

When the yellow power input lead is connected, power will always be supplied to the memory circuit even when the ignition key is turned off.

Notes on speaker connection

- *Before connecting the speakers, turn the unit off.*
- *Use speakers with an impedance of 4 to 8 ohms, and with adequate power handling capacities. Otherwise, the speakers may be damaged.*
- *Do not connect the terminals of the speaker system to the car chassis, and do not connect the terminals of the right speaker with those of the left speaker.*
- *Do not attempt to connect the speakers in parallel.*
- *Do not connect any active speakers (with built-in amplifiers) to the speaker terminals of the unit. Doing so may damage the active speakers. Therefore, be sure to connect passive speakers to these terminals.*

Notas sobre los conductores de control

- *El conductor de control de la antena motorizada (azul) suministrará +12 V CC cuando conecte la alimentación del sintonizador o cuando active la función de activación automática del sintonizador (ATA).*
- *Con esta unidad no podrá utilizarse una antena motorizada sin caja de relés.*

Conexión para protección de la memoria

Si conecta el conductor de entrada amarillo, el circuito de la memoria recibirá siempre alimentación, incluso aunque ponga la llave de encendido en la posición OFF.

Notas sobre la conexión de los altavoces

- *Antes de conectar los altavoces, desconecte la alimentación de la unidad.*
- *Utilice altavoces con una impedancia de 4 a 8 ohmios, y con la potencia máxima admisible adecuada, ya que de lo contrario podría dañarlos.*
- *No conecte los terminales del sistema de altavoces al chasis del automóvil, ni los del altavoz izquierdo a los del derecho.*
- *No intente conectar los altavoces en paralelo.*
- *No conecte altavoces activos (con amplificador incorporado) a los terminales de altavoces de la unidad. Si lo hiciese, podría dañar tales altavoces. Por lo tanto, cerciórese de conectar altavoces pasivos a estos terminales.*

關于控制導線

- *接通調諧器電源或使用 ATA（調諧器自動補電）功能時，功率天線的控制線（藍色）便能供給 12V 直流電。*
- *本機不能使用沒有繼電箱的功率天線。*

保持記憶的線路連接法

當連接著黃色電源輸入電線時，即使汽車發動機點火鑰匙將在電源切斷之處，電源仍將繼續供給電流給記憶用電線，以維持所記憶著的數據。

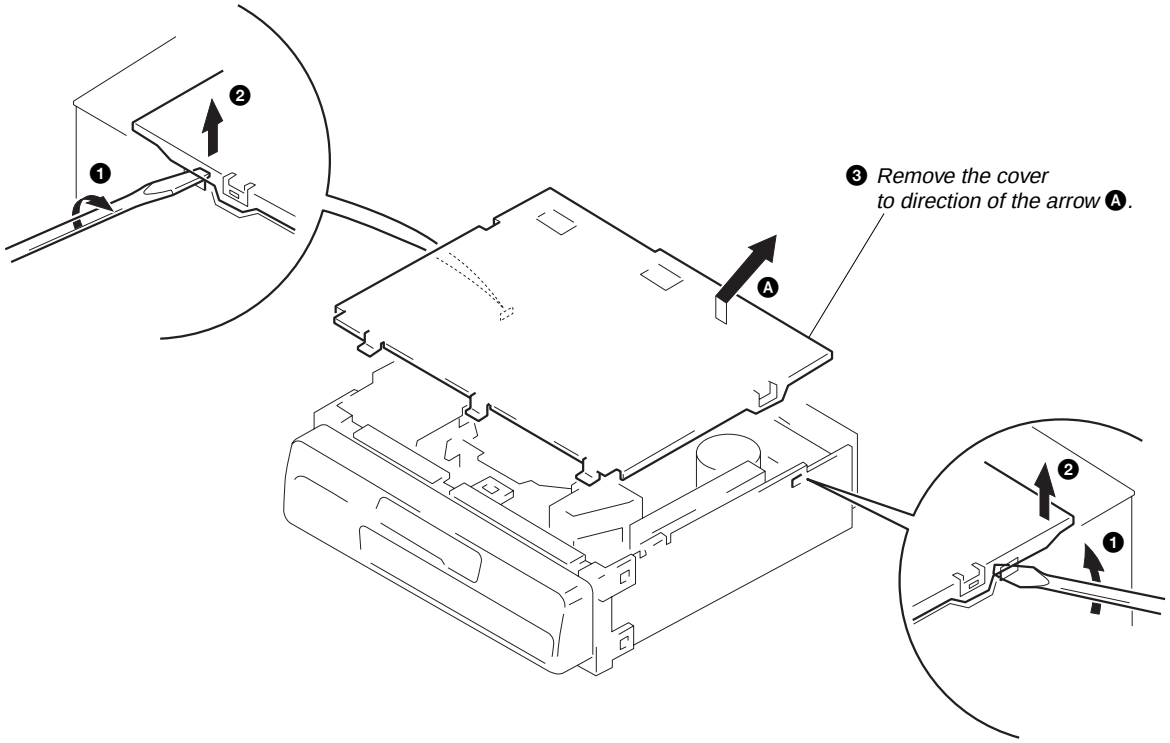
連接揚聲器時的注意事項

- *連接揚聲器電線以前，請先切斷本機電源。*
- *揚聲器請使用阻抗為 4 到 8 之間，並且有適合本機使用的電容量者。否則會損壞揚聲器。*
- *不可把揚聲器端子連接到汽車底盤，也不可把左揚聲器和右揚聲器相連接。*
- *揚聲器不可平行的連接。*
- *不可連接有源揚聲器（內裝有放大器者）至本機的揚聲器端子，否則會損壞揚聲器。這些端子只能連接無源揚聲器。*

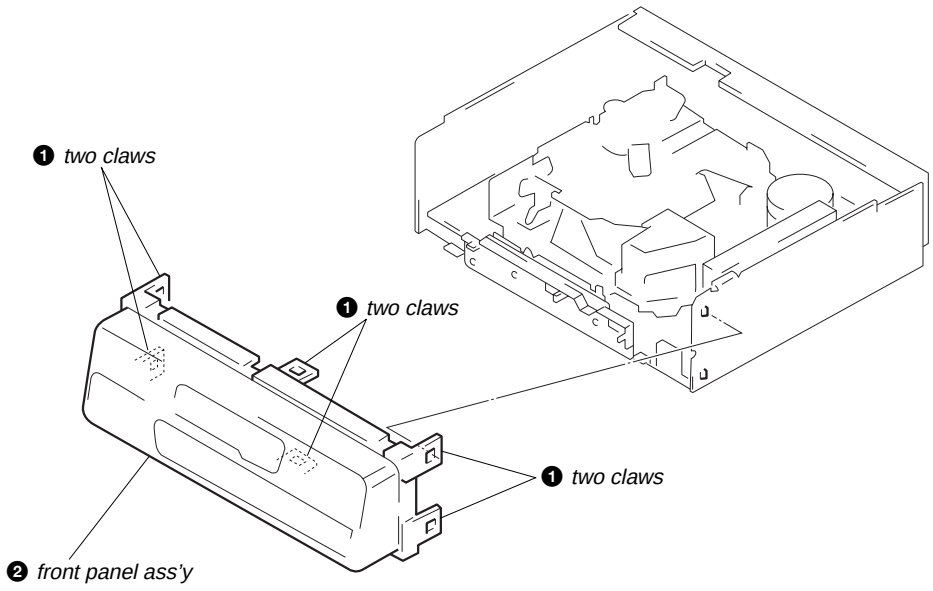
SECTION 2
DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

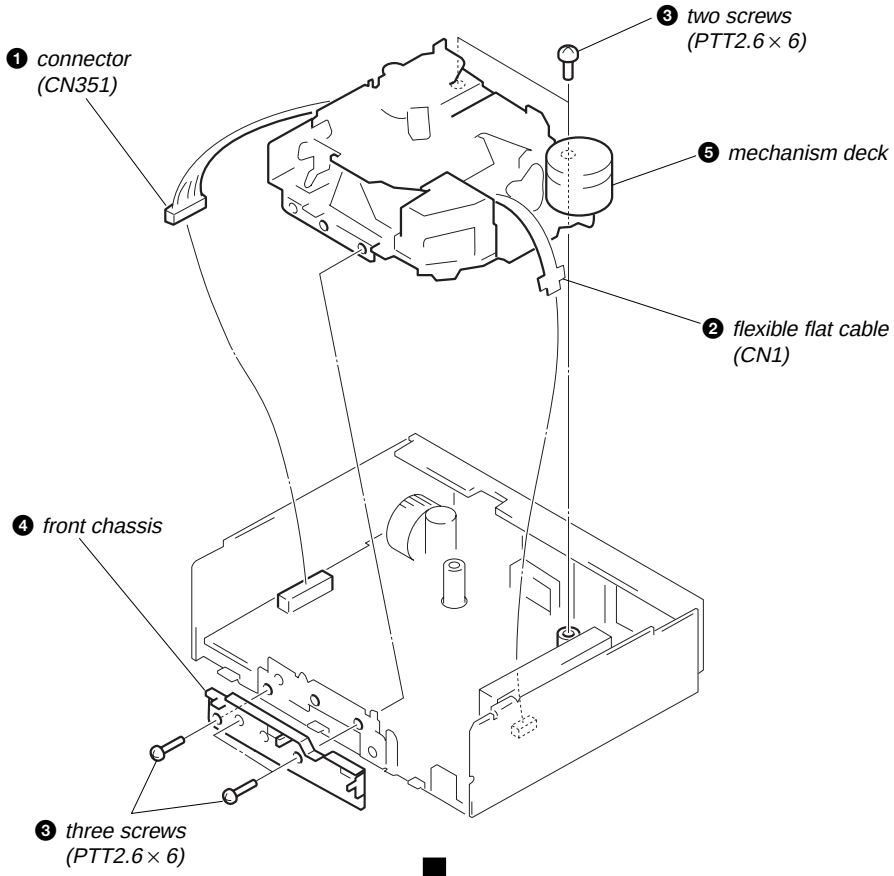
COVER



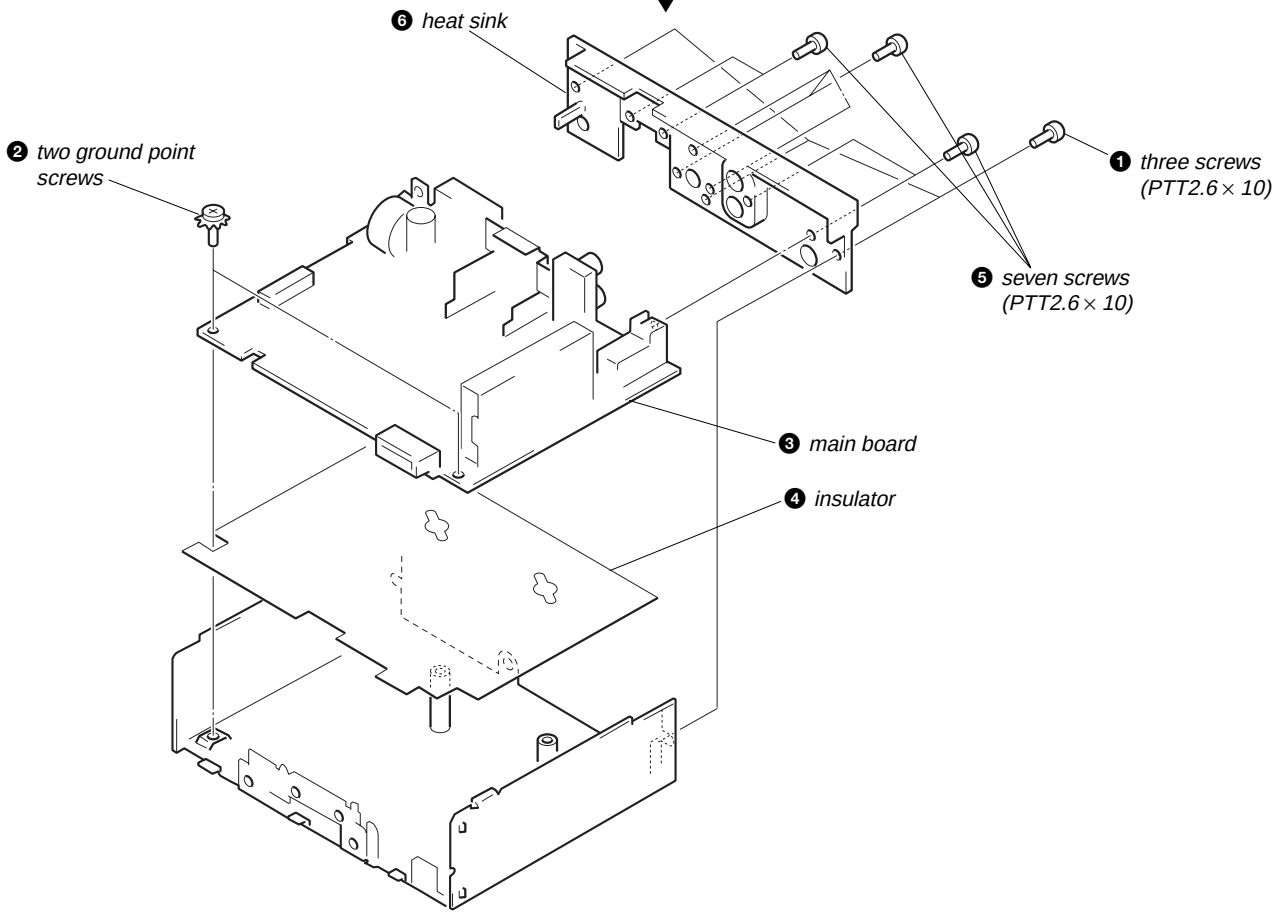
FRONT PANEL ASS'Y



MECHANISM DECK



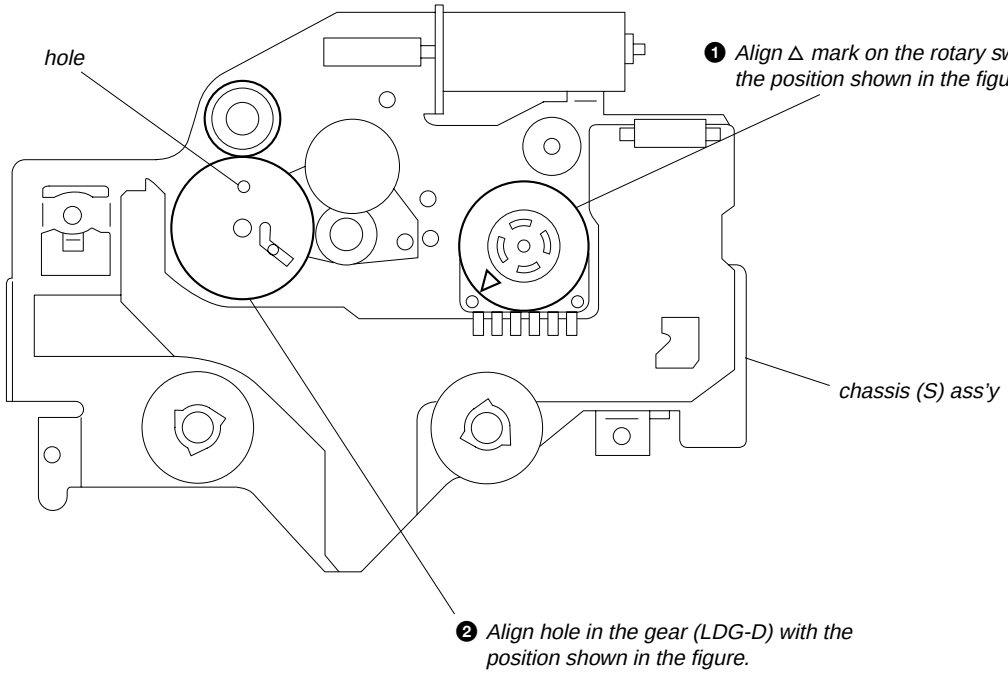
MAIN BOARD, HEAT SINK



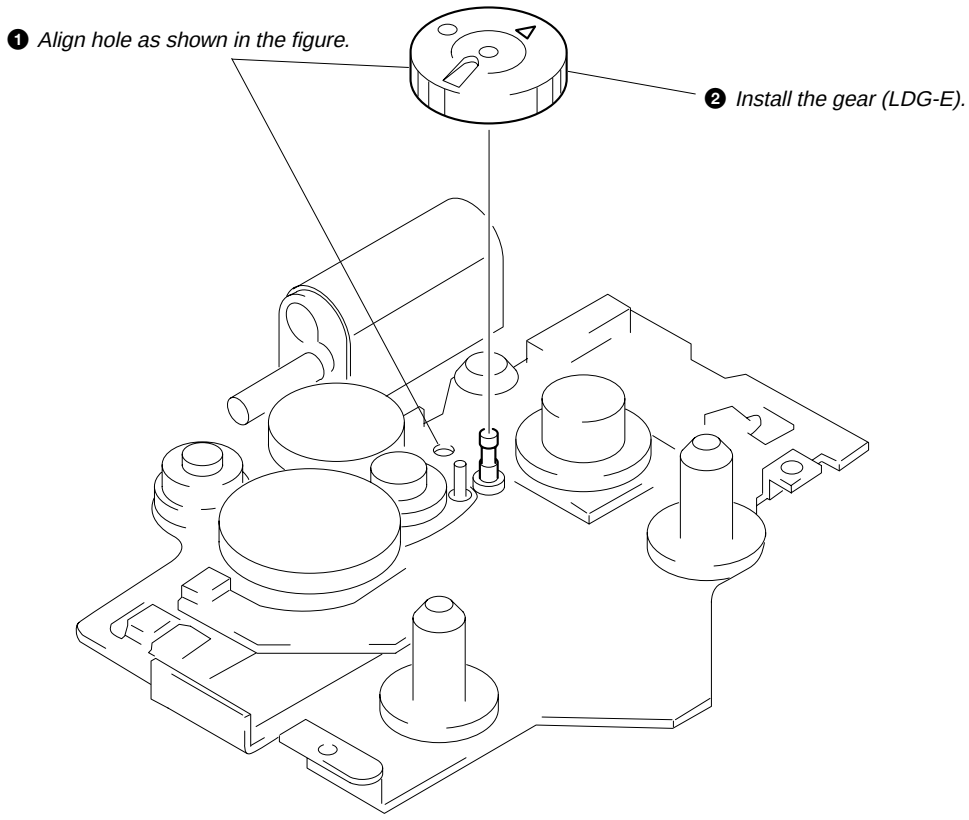
SECTION 3
ASSEMBLY OF MECHANISM DECK

Note: Follow the assembly procedure in the numerical order given.

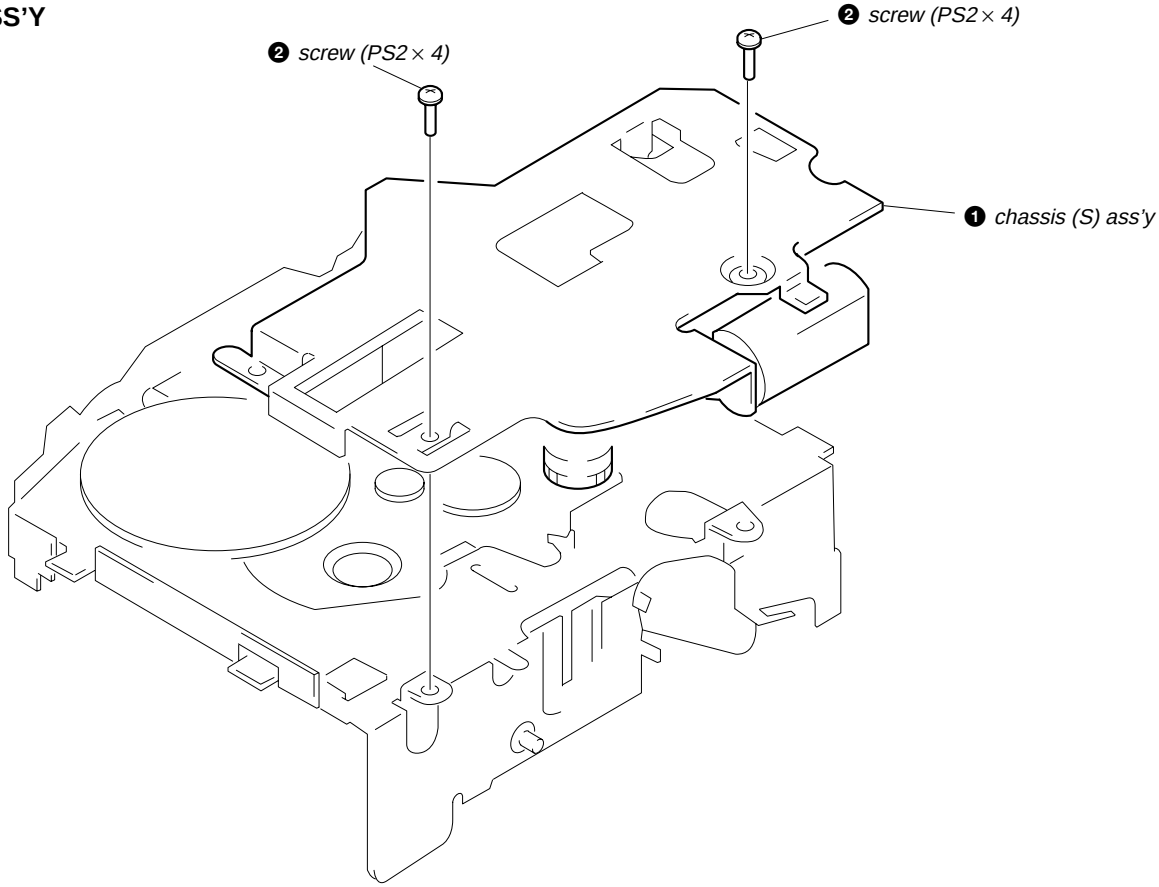
ALIGNMENT OF FRONT SWITCH


hole
❶ Align △ mark on the rotary switch the position shown in the figure.
chassis (S) ass'y
❷ Align hole in the gear (LDG-D) with the position shown in the figure.

GEAR (LDGE)

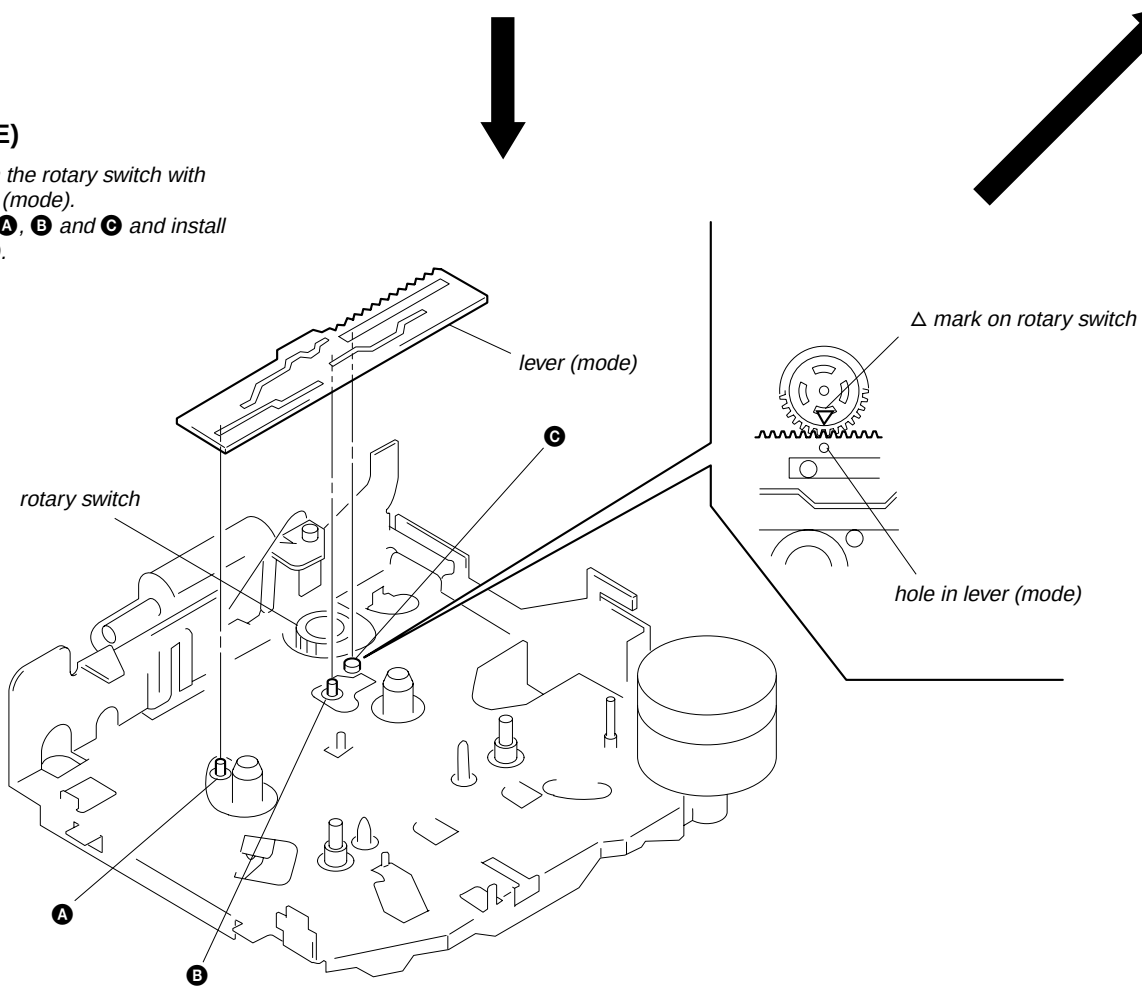


CHASSIS (S) ASS'Y

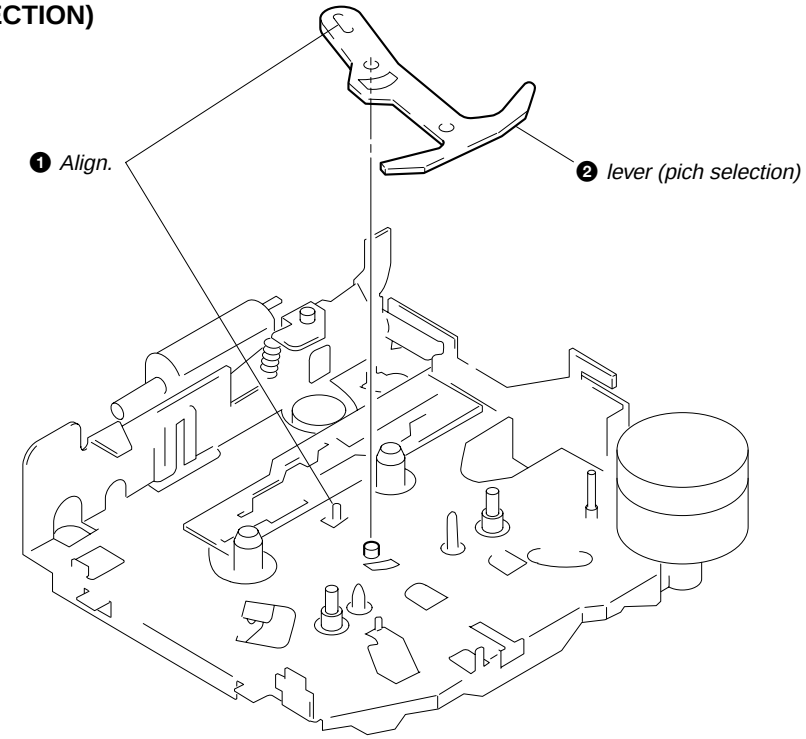


LEVER (MODE)

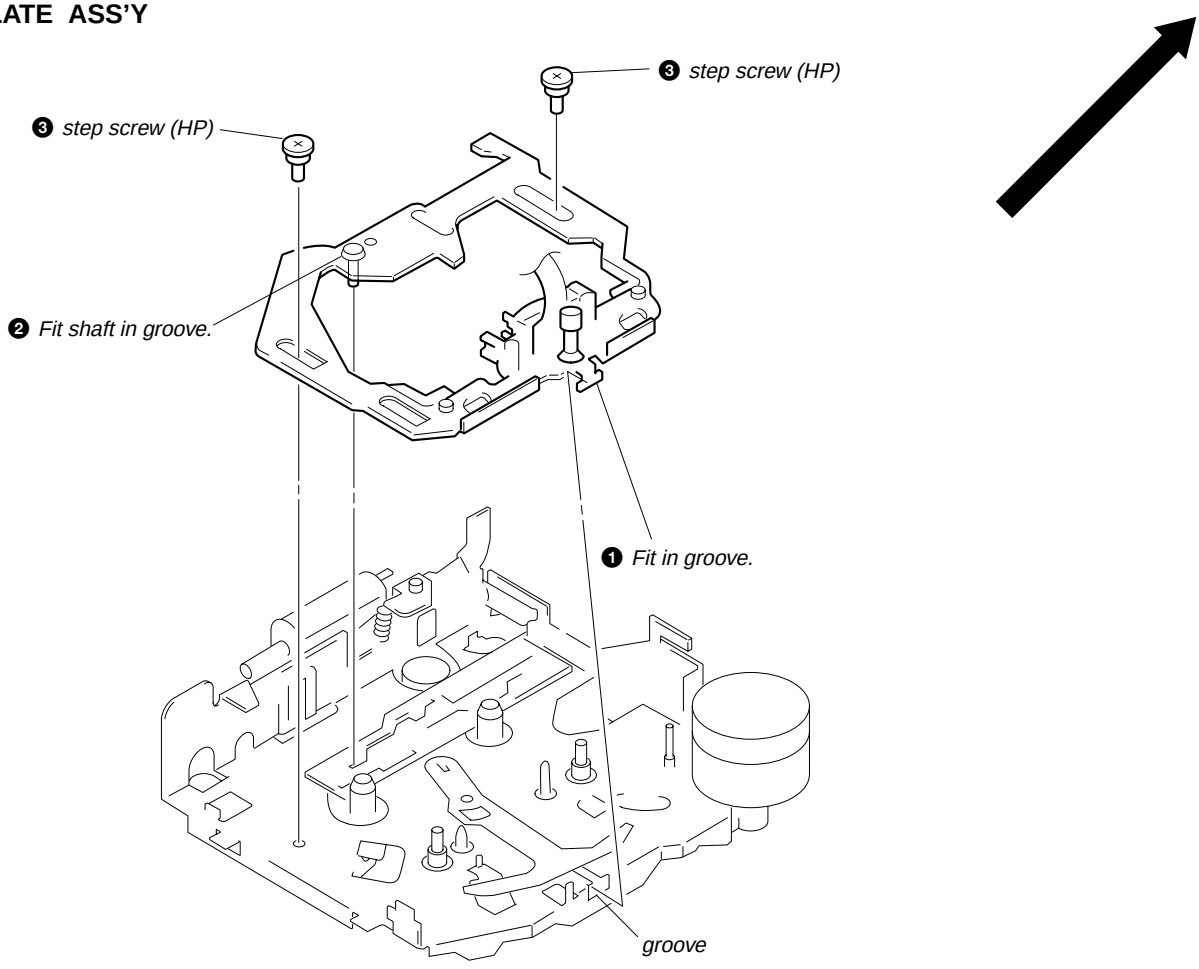
1. *Align △ mark on the rotary switch with hole in the lever (mode).*
2. *Fit on positions ❹, ❸ and ❷ and install the lever (mode).*



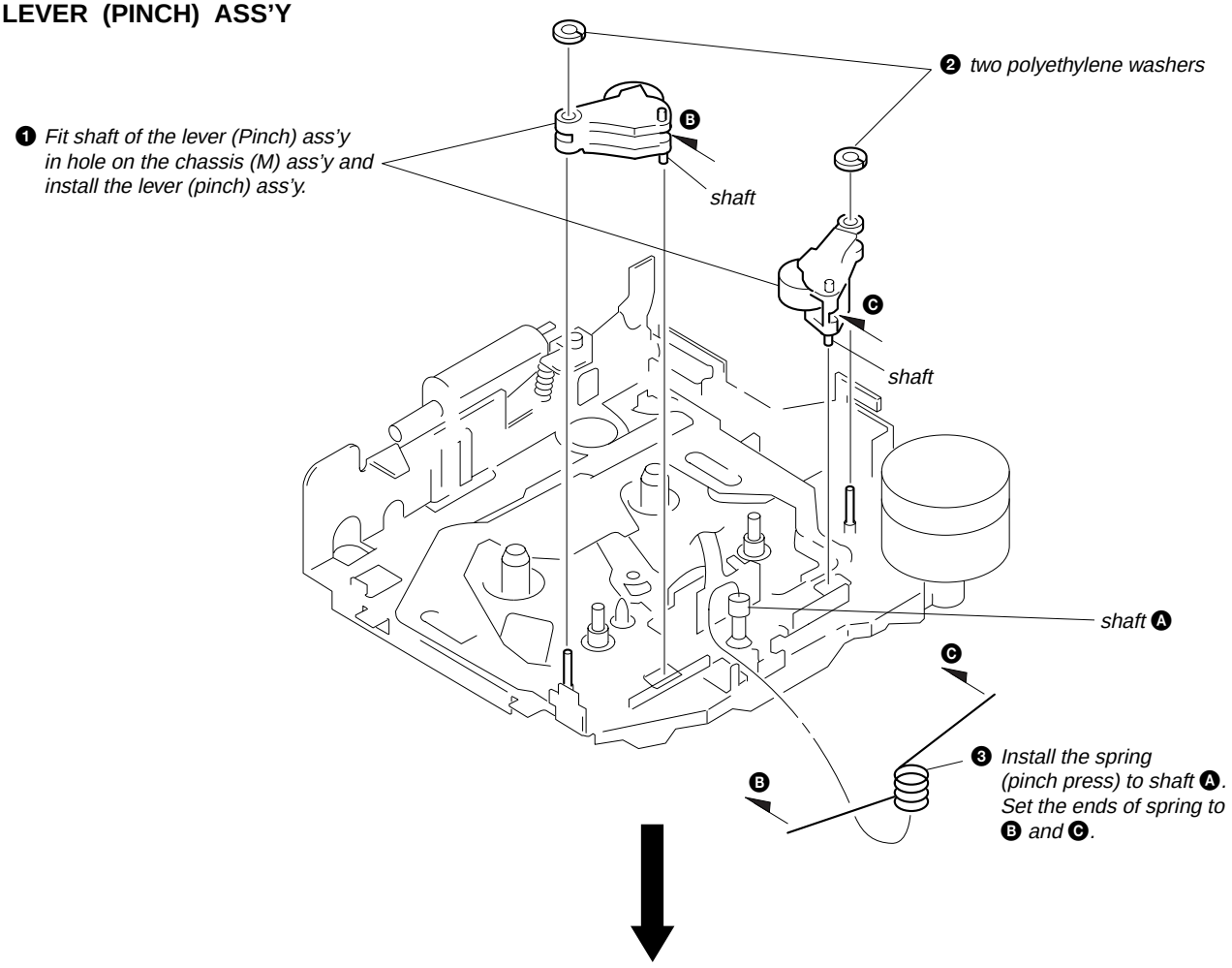
LEVER (PINCH SELECTION)



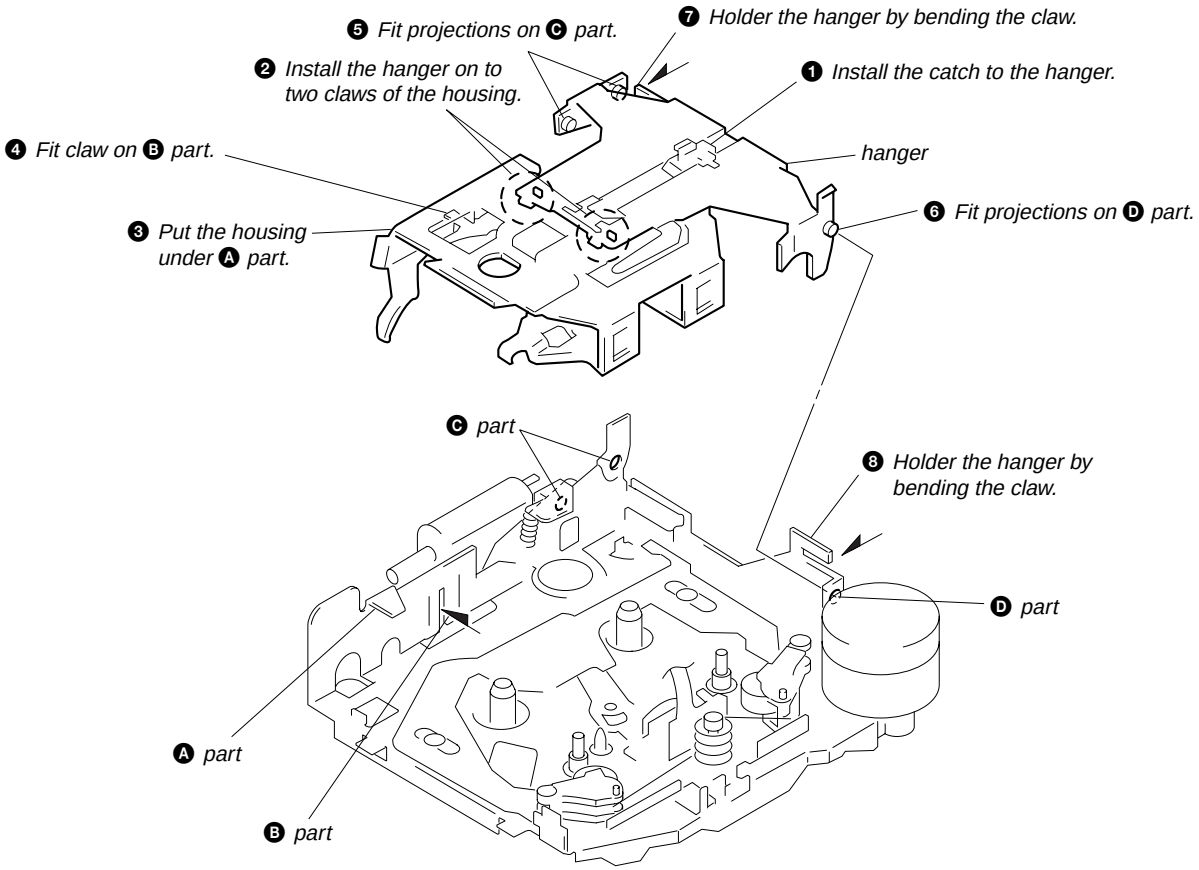
HEAD PLATE ASS'Y



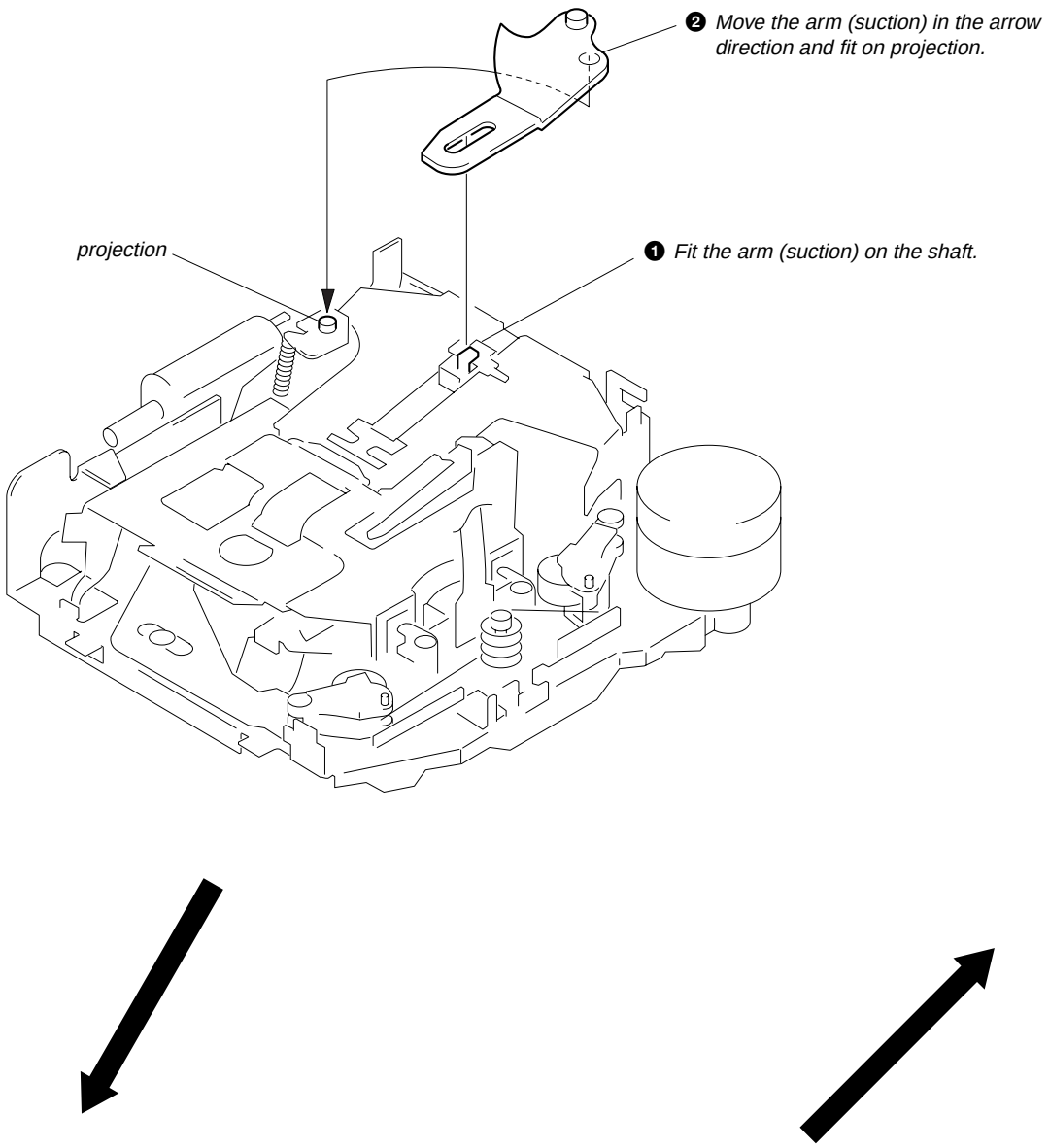
LEVER (PINCH) ASS'Y


❷ two polyethylene washers
❶ Fit shaft of the lever (Pinch) ass'y in hole on the chassis (M) ass'y and install the lever (pinch) ass'y.
Ⓑ
shaft
Ⓒ
shaft
shaft Ⓐ
Ⓒ
❸ Install the spring (pinch press) to shaft Ⓐ. Set the ends of spring to Ⓑ and Ⓒ.
Ⓑ

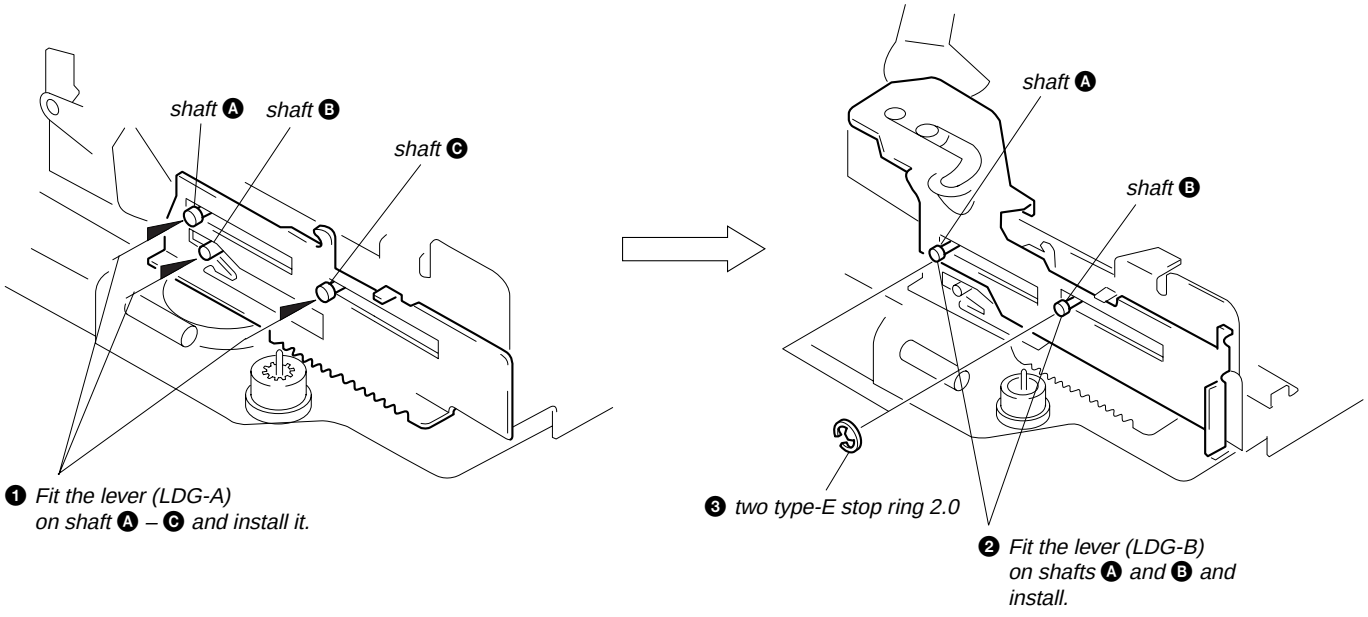
HOUSING


❺ Fit projections on Ⓒ part.
❼ Holder the hanger by bending the claw.
❷ Install the hanger on to two claws of the housing.
❶ Install the catch to the hanger.
❹ Fit claw on Ⓑ part.
hanger
❸ Put the housing under Ⓐ part.
❻ Fit projections on Ⓓ part.
Ⓒ part
❽ Holder the hanger by bending the claw.
Ⓓ part
Ⓐ part
Ⓑ part

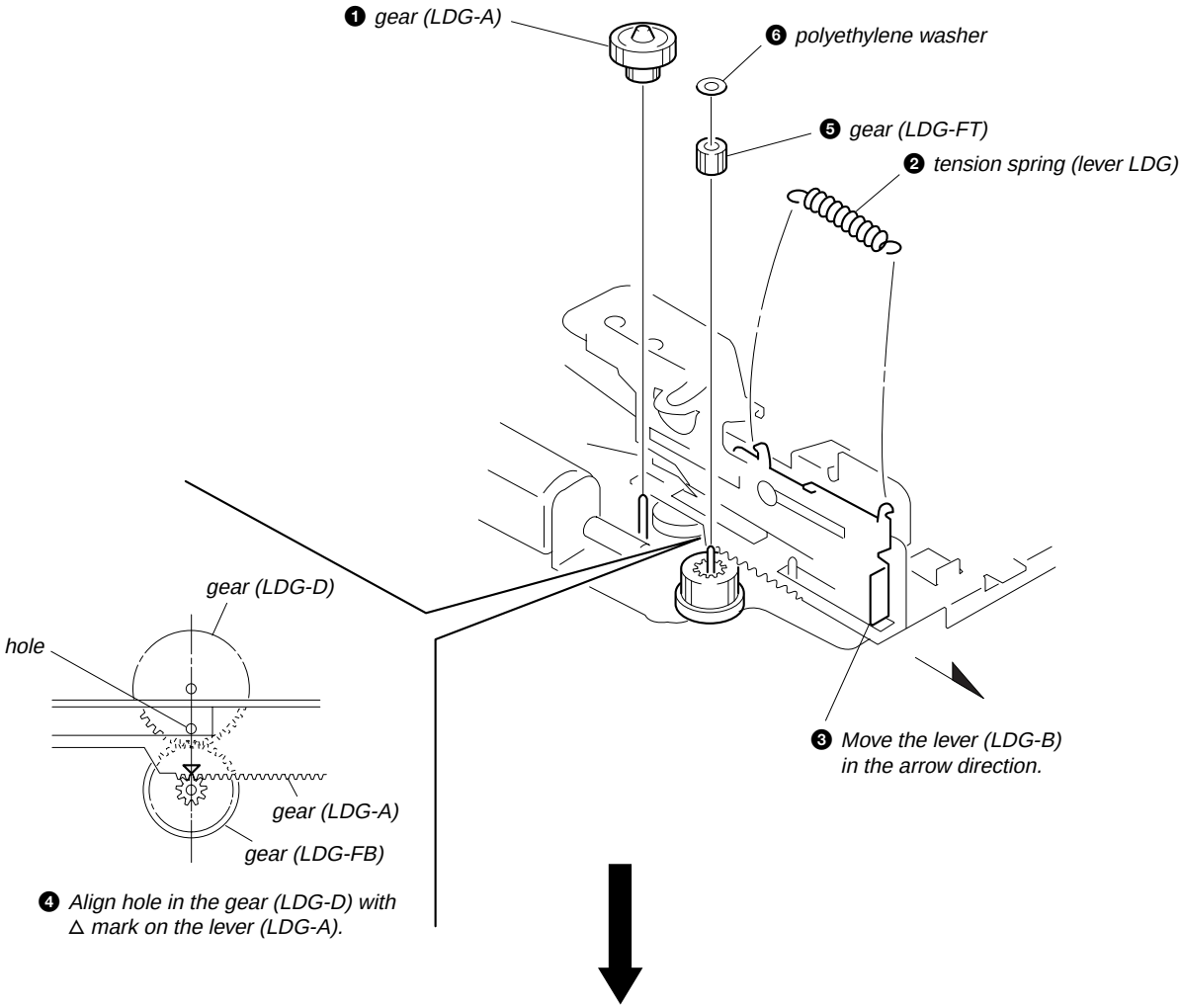
ARM (SUCTION)



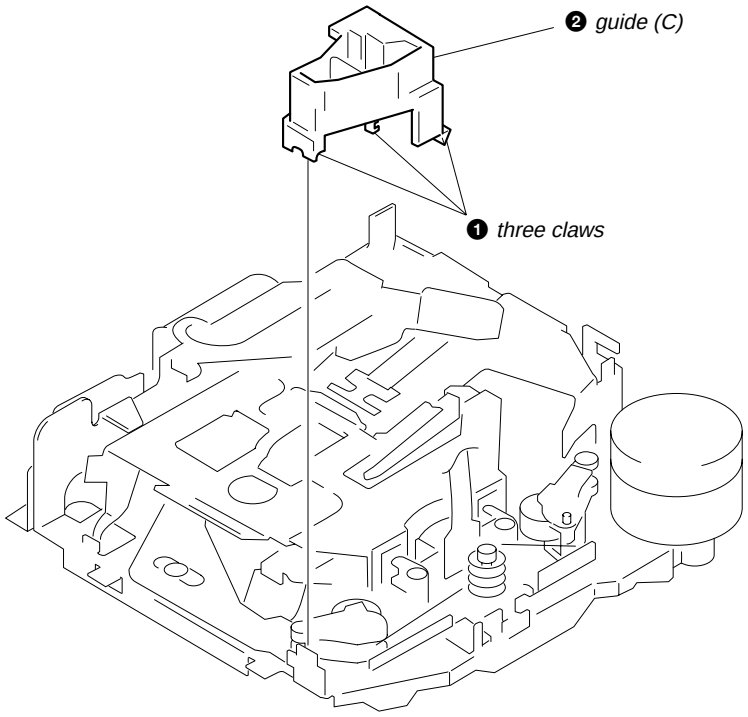
LEVER (LDG-A) / (LDG-B)


shaft Ⓐ
shaft Ⓑ
shaft Ⓒ
❶ Fit the lever (LDG-A) on shaft Ⓐ – Ⓒ and install it.
shaft Ⓐ
shaft Ⓑ
❸ two type-E stop ring 2.0
❷ Fit the lever (LDG-B) on shafts Ⓐ and Ⓑ and install.

GEAR (LDG-FT)


❶ gear (LDG-A)
❻ polyethylene washer
❺ gear (LDG-FT)
❷ tension spring (lever LDG)
gear (LDG-D)
hole
gear (LDG-A)
gear (LDG-FB)
❸ Move the lever (LDG-B) in the arrow direction.
❹ Align hole in the gear (LDG-D) with △ mark on the lever (LDG-A).

GUIDE (C)



SECTION 4
MECHANICAL ADJUSTMENTS

1. Clean the following parts with a denatured-alcohol-moistened swab:
   playback head pinch roller
   rubber belt capstan
   idler
2. Demagnetize the playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. The adjustments should be performed with the power supply voltage (14.4 V) unless otherwise noted.

• Torque Measurement

Mode	Torqu Meter	Meter Reading
Forward	CQ-102C	35–65 g•cm (0.49–0.90 oz•inch)
Forward Back Tension	CQ-102C	0.5–5.0 g•cm (0.01–0.07 oz•inch)
Reverse	CQ-102RC	35–65 g•cm (0.49–0.90 oz•inch)
Reverse Back Tension	CQ-102RC	0.5–5.0 g•cm (0.01–0.07 oz•inch)
FF, REW	CQ-201B	60–200 g•cm (0.83–2.78 oz•inch)

• Tape Tension Measurement

Mode	Torqu Meter	Meter Reading
Forward	CQ-403A	more than 60 g (more than 2.12 oz)
Reverse	CQ-403R	

SECTION 5
ELECTRICAL ADJUSTMENTS

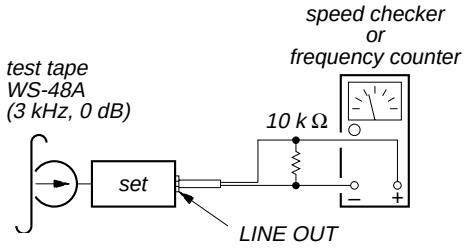
See the adjustment location from on page 17 for the adjustment.

TAPE DECK SECTION | **0 dB=0.775 V**

Tape Speed Adjustment

Procedure:

1. Put the set into the FWD PB mode.



Specification: Constant speed

Speed checker	Frequency counter
–1.5 to +2.5%	2,955 to 3,075 Hz

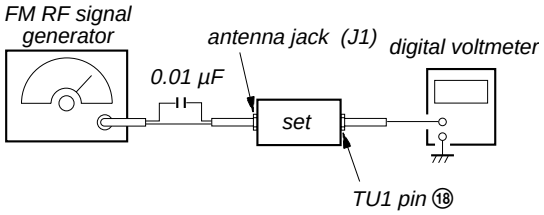
Adjustment Location: See page 17.

TUNER SECTION | **0 dB=1 µV**

FM S Meter Adjustment

Setting:

SOURCE button : FM
FREQUENCY SELECT switch : 9 k (E, Australian model)



Carrier frequency : 97.9 MHz (US model)
: 98.0 MHz (E, Australian model)
Output level : 30 dB (31.6 µV)
Mode : mono
Modulation : 1 kHz, 75 kHz deviation

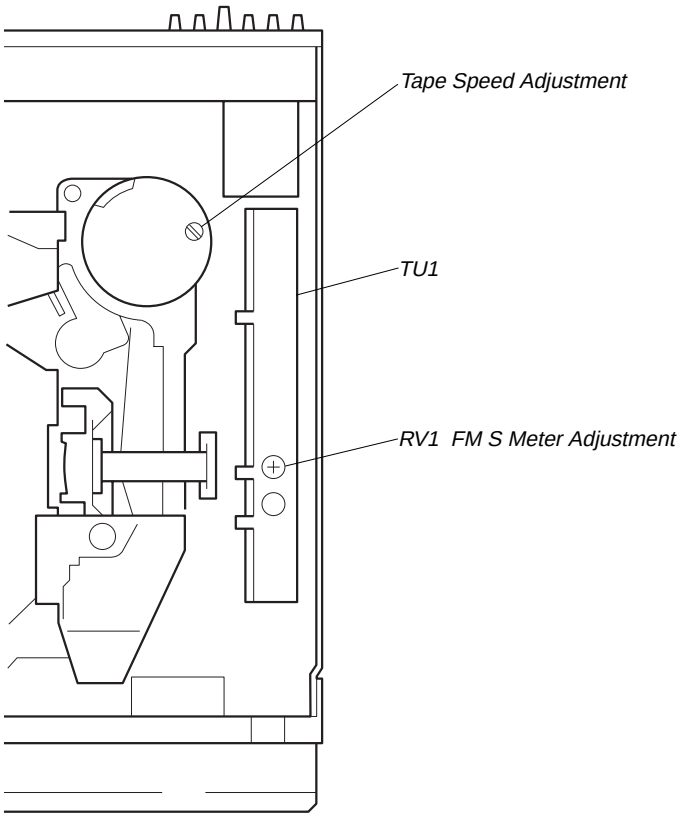
Procedure:

1. Tune the 97.9 MHz (US model) or 98.0 MHz (E, Australian model).
2. Adjust RV1 on TU1 so that the digital voltmeter reading is 3.1 V.

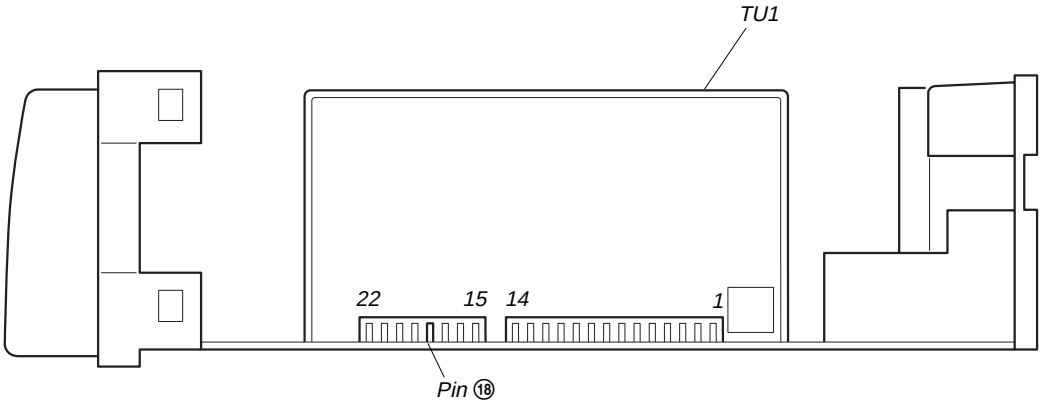
Adjustment Location: See page 17.

Adjustment Location:

– SET UPPER VIEW –



– SET SIDE VIEW –



SECTION 6
DIAGRAMS

6-1. IC PIN FUNCTION DESCRIPTION

• MAIN BOARD IC501 µPD17707GC-522-3B9 (SYSTEM CONTROL)

Pin No.	Pin Name	I/O	Function
1	NIL	–	Not used (Fixed at “L”)
2, 3	POS3, POS2	I	Tape position detection pin
4, 5	POS0, POS1	I	Tape position detection pin
6	TAPEON	O	Tape power supply control pin
7	CM_ON	O	Capstan motor control pin
8	LM_LOD	O	Loading motor control pin (loadig direction)
9	LM_EJ	O	Loading motor control pin (eject direction)
10	TUNON	O	Tuner power supply control pin
11	FM_ON	O	FM power supply control pin
12	PW_ON	O	System power supply control pin
13	MUTE	O	System muting control pin At muting: “H”
14	VOLCE	O	Chip enable output pin to electrical volume
15	VOLCKO	O	Clock output pin to electrical volume
16	VOLSO	O	Data output pin to electrical volume
17	AMPON	O	Power amp power supply control pin
18	$\overline{\text{AMPMUT}}$	O	Power amp muting control pin At muting: “L”
19	$\overline{\text{DX}}$_LO	O	DX/local selection control pin
20	NC1	–	Not used
21	GND	–	GND
22	DSTSEL	I	Destination setting pin (A/D input)
23	D_BASS	I	D-BASS switch input pin (A/D input)
24,25	KEYIN1,KEYIN0	I	Key input pin (A/D input)
26	RC_IN0	I	Rotary remote commander input pin (A/D input)
27	VSM	I	FM/AM signal meter voltage detection pin (A/D input)
28	AMIFIN	I	AM(MW,SW) IF input pin
29	FMIFIN	I	FM IF input pin
30	VDD	–	Power supply
31	FM_OSC	I	FM OSC signal input pin
32	AM_OSC	I	AM OSC signal input pin
33	GND	–	GND
34	NC2	–	Not used
35	EO1	O	Main charge-pump output pin
36	TEST0	I	Test pin
37	NC3	–	Not used
38	$\overline{\text{SEKOUT}}$	O	SEEK control signal output pin
39	MW_SW	O	MW/SW power supply select pin (Not used)
40	BEEP	O	Beep sound output pin
41	KEYACK	O	Key acknowledge signal input pin
42	BU_IN	I	Back up power supply detection pin
43	MTLSEL	I/O	METAL control input/output pin At initial mode: auto/manual selection input of METAL function “L”: manual At manual mode: METAL on/off output “H”: on At auto mode: input at ⑲ MTLIN
44	DOLON	I/O	DOLBY control input/output pin At initial mode: valid/invalid selection input of DOLBY function At normal mode: DOLBY on/off output
45	$\overline{\text{AMSIN}}$	I	Tape music with/without detection pin “L”: with music
46	ST	I/O	Stereo detection signal input and forced monaural signal output pin

Pin No.	Pin Name	I/O	Function
47	$\overline{\text{AMSON}}$	O	At AMS: “L”
48	N_$\overline{\text{R}}$OUT	O	Forward/reverse control pin
49	TAPMUT	O	Tape muting control pin At muting: “H”
50	ILLON	O	Illumination power supply control pin At PW SEL on: ACC on: “H” At PW SEL off: Power on: “H”
51	SD_IN	I	Station detection signal input pin
52	$\overline{\text{NOSESW}}$	I	Front panel removal or attaching detection pin
53	$\overline{\text{TELMUT}}$	I	Telephone muting detection pin “L”: 20dB audio muting
54	REL	I	Reel table rotation detection pin
55	$\overline{\text{ACCIN}}$	I	Accessory voltage detection pin
56	$\overline{\text{TESTIN}}$	I	Test mode setting pin
57	RC_IN1	I	Rotary remote commander input pin (A/D input)
58	PW_SEL	I	Power select switch input pin
59	MTLIN	I	AUTO METAL detection pin “L”: METAL
60	AD_ON	O	Power supply control pin for A/D conversion
61	KEYSEL	I	Key function setting pin
62	SEKOUTSEL	I	Active select pin for ㊳ SEKOUT
63	PULL-OUT	I	Not used
64	LCDCE	O	LCD chip enable output pin
65	LCDCKO	O	LCD clock output pin
66	LCDSO	O	LCD data output pin
67	$\overline{\text{LCDINH}}$	O	LCD brank indication control pin
68	NC6	–	Not used (Fixed at “L”)
69	NC7	–	Not used
70	NC8	–	Not used (Fixed at “L”)
71	NC9	–	Not used
72	NC10	–	Not used
73	NC11	–	Not used
74	VREG	O	CPU regurator output pin
75	GND	–	GND
76	X_OUT	O	System clock output pin (4.5 MHz)
77	X_IN	I	System clock input pin (4.5 MHz)
78	CE	I	Fixed at “H”
79	VDD	–	Power supply
80	$\overline{\text{RESET}}$	I	Reset input pin

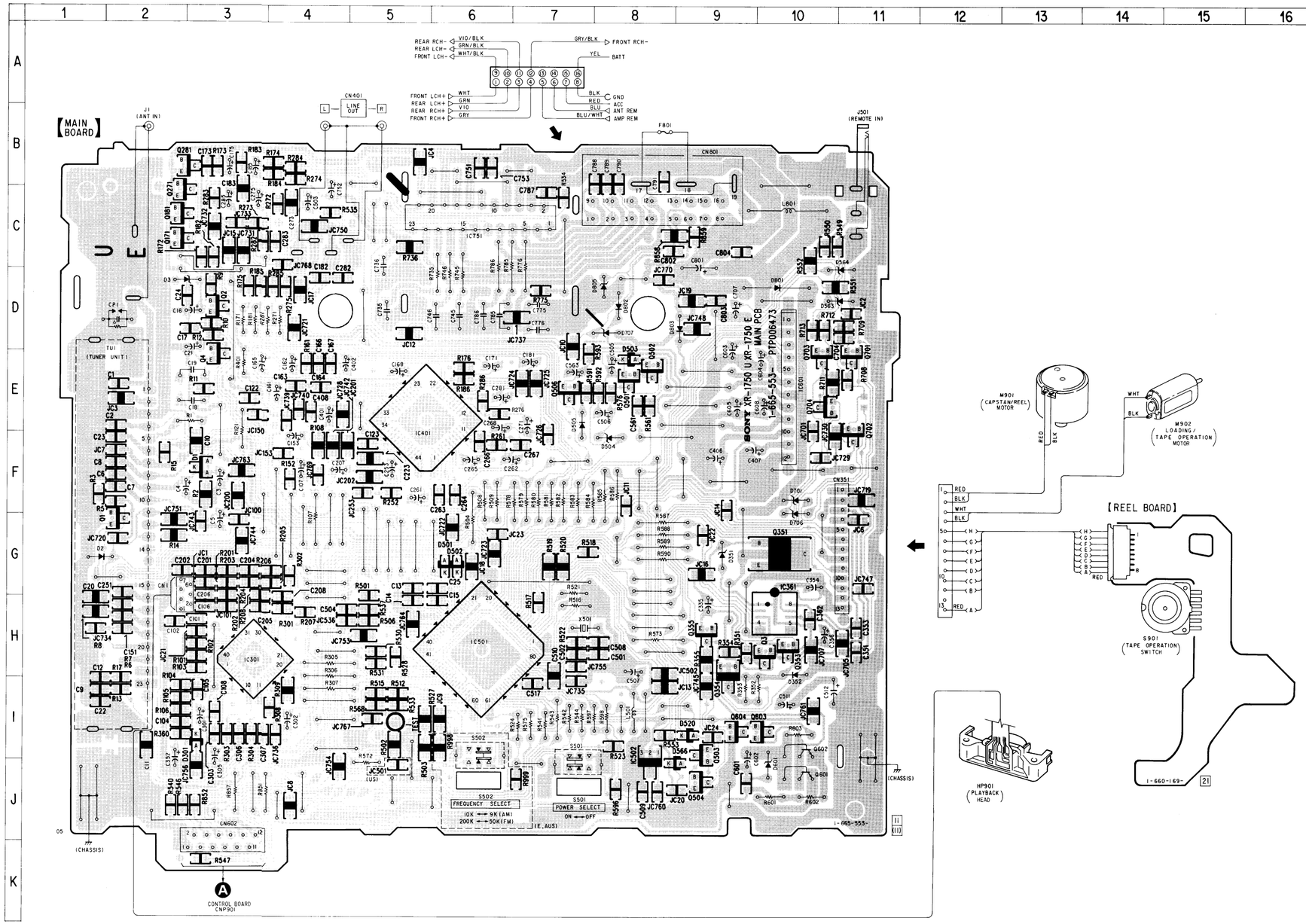
6-2. PRINTED WIRING BOARDS – MAIN Section –

• **Semiconductor Location**

Ref. No.	Location	Ref. No.	Location
D1	F-3	IC601	E-10
D2	G-1	IC751	C-6
D3	D-2		
D301	I-3	Q1	G-2
D351	G-9	Q2	D-3
D352	H-10	Q3	H-10
D501	G-6	Q4	E-3
D502	G-6	Q171	C-2
D503	E-8	Q181	C-2
D504	F-8	Q271	C-2
D505	E-7	Q281	B-2
D520	I-9	Q351	G-10
D563	D-11	Q353	H-10
D564	D-11	Q354	H-9
D566	J-9	Q355	H-9
D601	J-10	Q501	E-8
D701	F-10	Q502	E-8
D706	G-10	Q503	I-9
D707	D-8	Q504	J-9
D801	D-10	Q506	E-7
D802	D-8	Q601	J-10
D803	D-9	Q602	I-10
D805	D-8	Q603	I-10
		Q604	I-9
IC301	H-3	Q701	E-11
IC361	H-10	Q702	F-11
IC401	E-5	Q703	E-10
IC501	H-6	Q704	E-10
IC502	I-8		

Note on Printed Wiring Board:

- o—— : parts extracted from the component side.
- △ : internal component.
- Abbreviation
  AUS : Australian

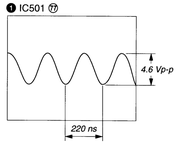


6-3. SCHEMATIC DIAGRAM – MAIN Section –

• See page 31 for IC Block Diagrams.

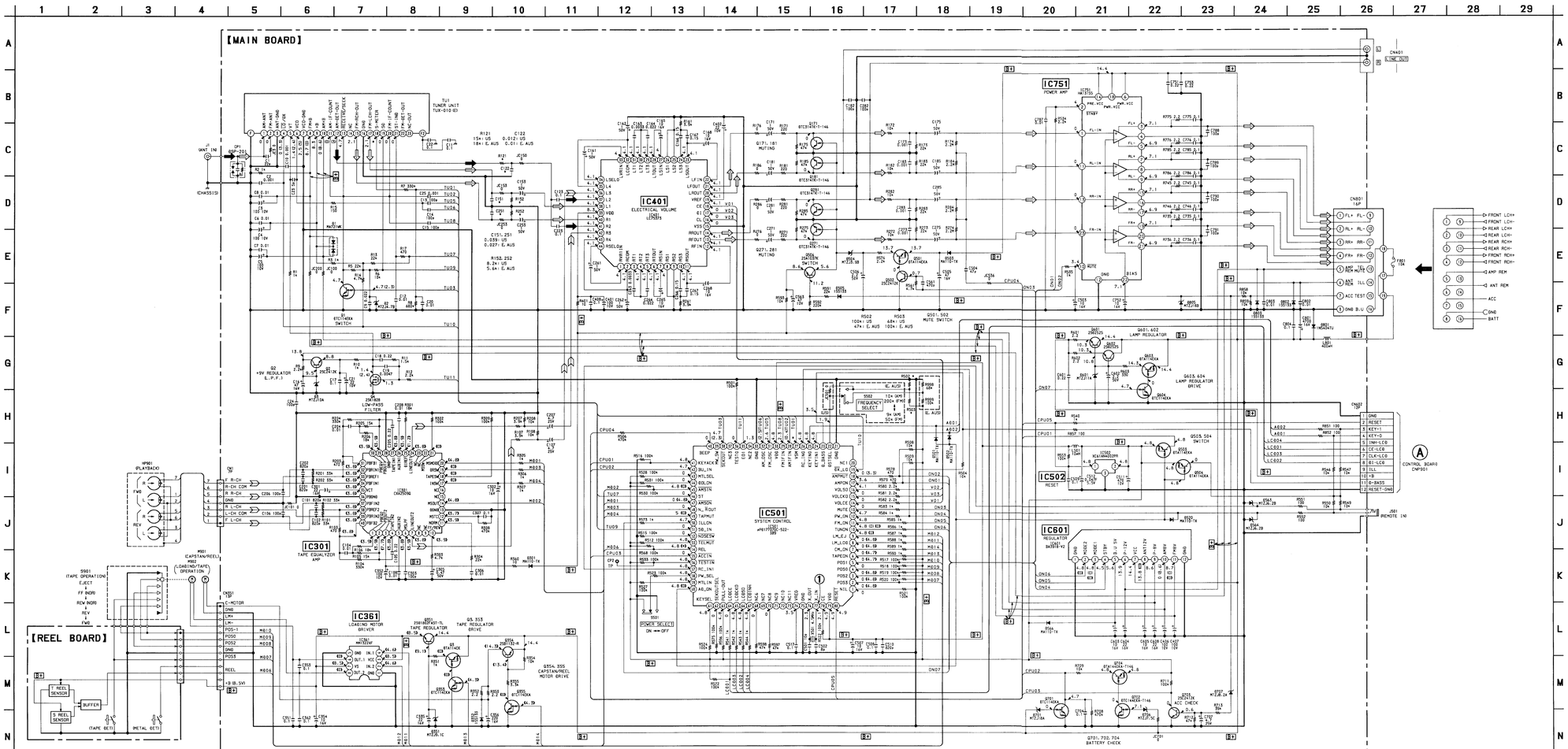
• **Waveform**

❶ IC501 ⑰

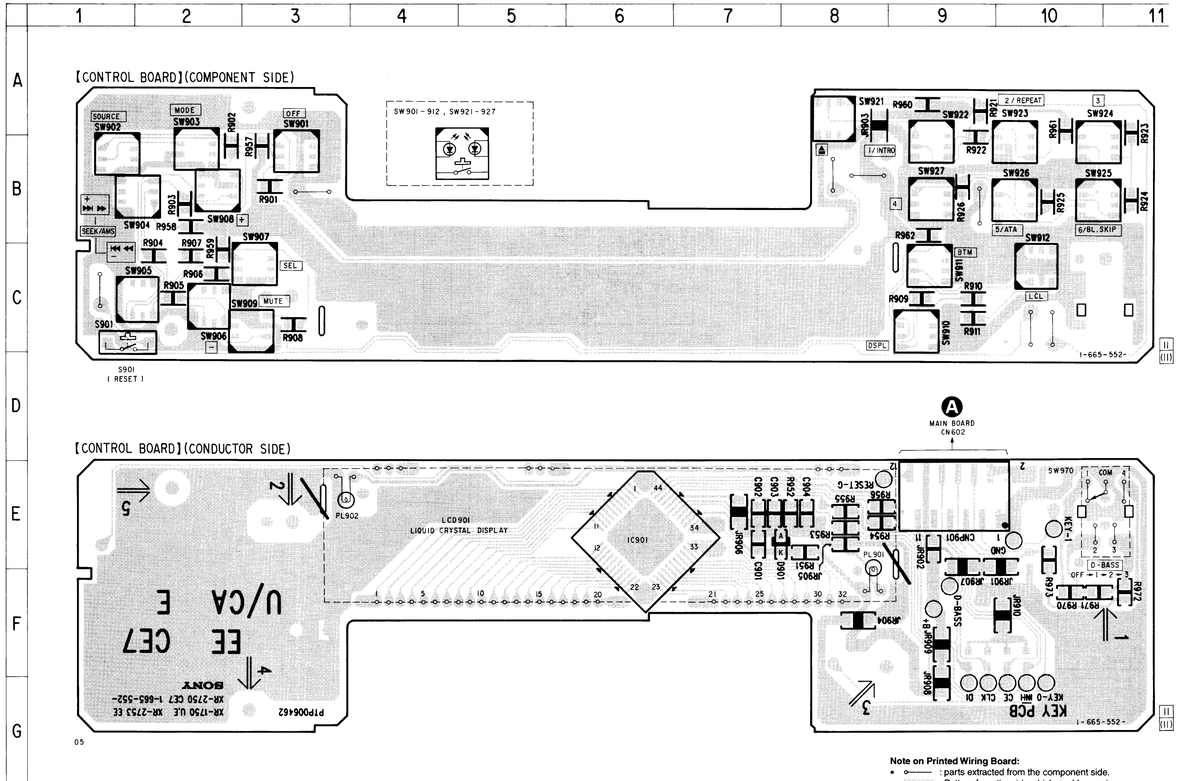


Note on Schematic Diagram:

- All capacitors are in μF unless otherwise noted. pF: μμF
  50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- △ : internal component.
- [ ] : panel designation.
- B+ : B+ Line.
- Power voltage is dc 14.4 V and fed with regulated dc power supply from ACC and BATT terminals.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
  ( ) : AM
  << >> : PB (TAPE)
  * : Impossible to measure
- Voltages are taken with a VOM (input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : FM
  ➡ : AM
  ⇨ : PB (TAPE)
- Abbreviation
  AUS : Australian



6-4. PRINTED WIRING BOARD – CONTROL Section –



• Semiconductor Location

Ref. No.	Location
D901	E-8
IC901	E-6

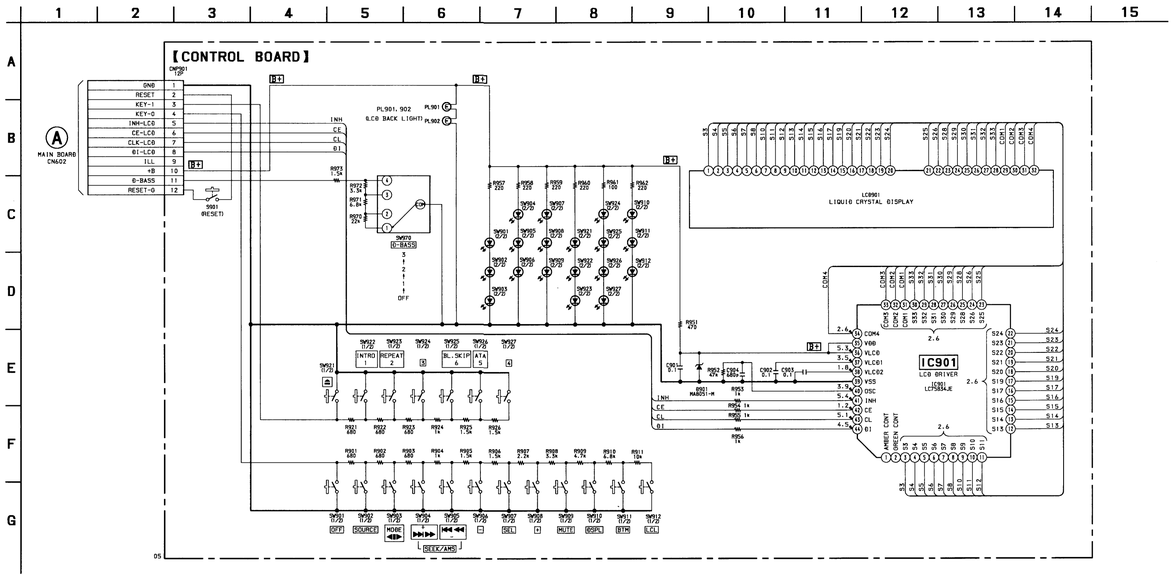
Note on Printed Wiring Board:

- ○—— : parts extracted from the component side.
- ▒▒▒ : Pattern from the side which enables seeing.

(The other layers' patterns are not indicated.)

Caution:
Pattern face side: (Conductor Side) Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component Side) Parts on the parts face side seen from the parts face are indicated.

6-5. SCHEMATIC DIAGRAM – CONTROL Section –

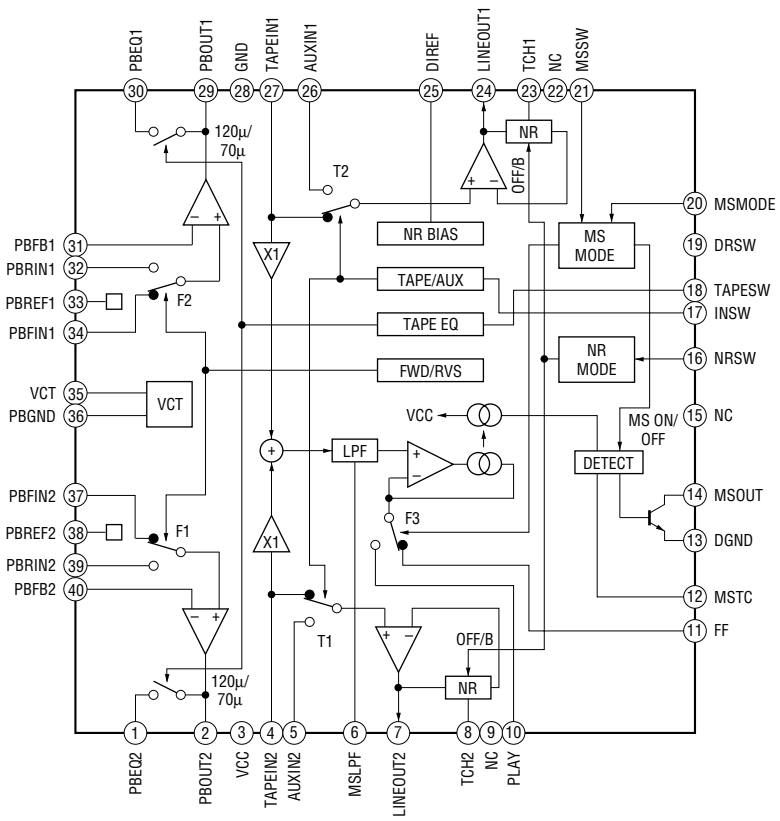


Note on Schematic Diagram:

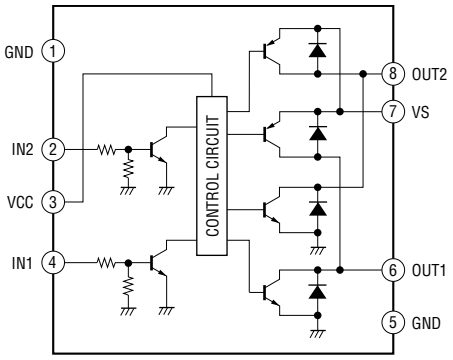
- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantaliums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- ▭ : panel designation.
- B+ : B+ Line.
- Power voltage is dc 14.4 V and fed with regulated dc power supply from ACC and BATT terminals.
- Voltages are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.

• **IC Block Diagrams**

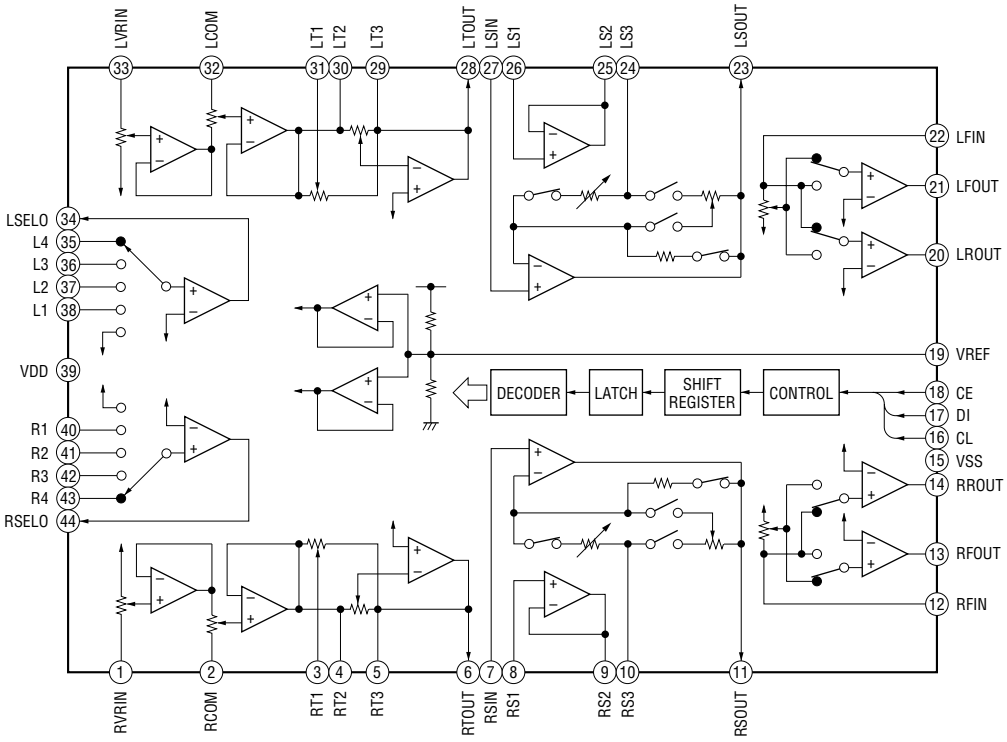
IC301 CXA2509AQ-T4



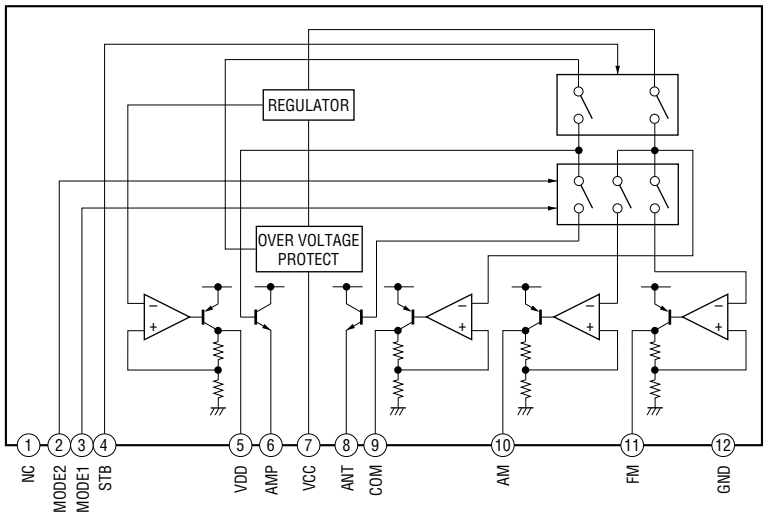
IC361 MM1322XFBE



IC401 LC75373ED



IC601 BA3918-V2

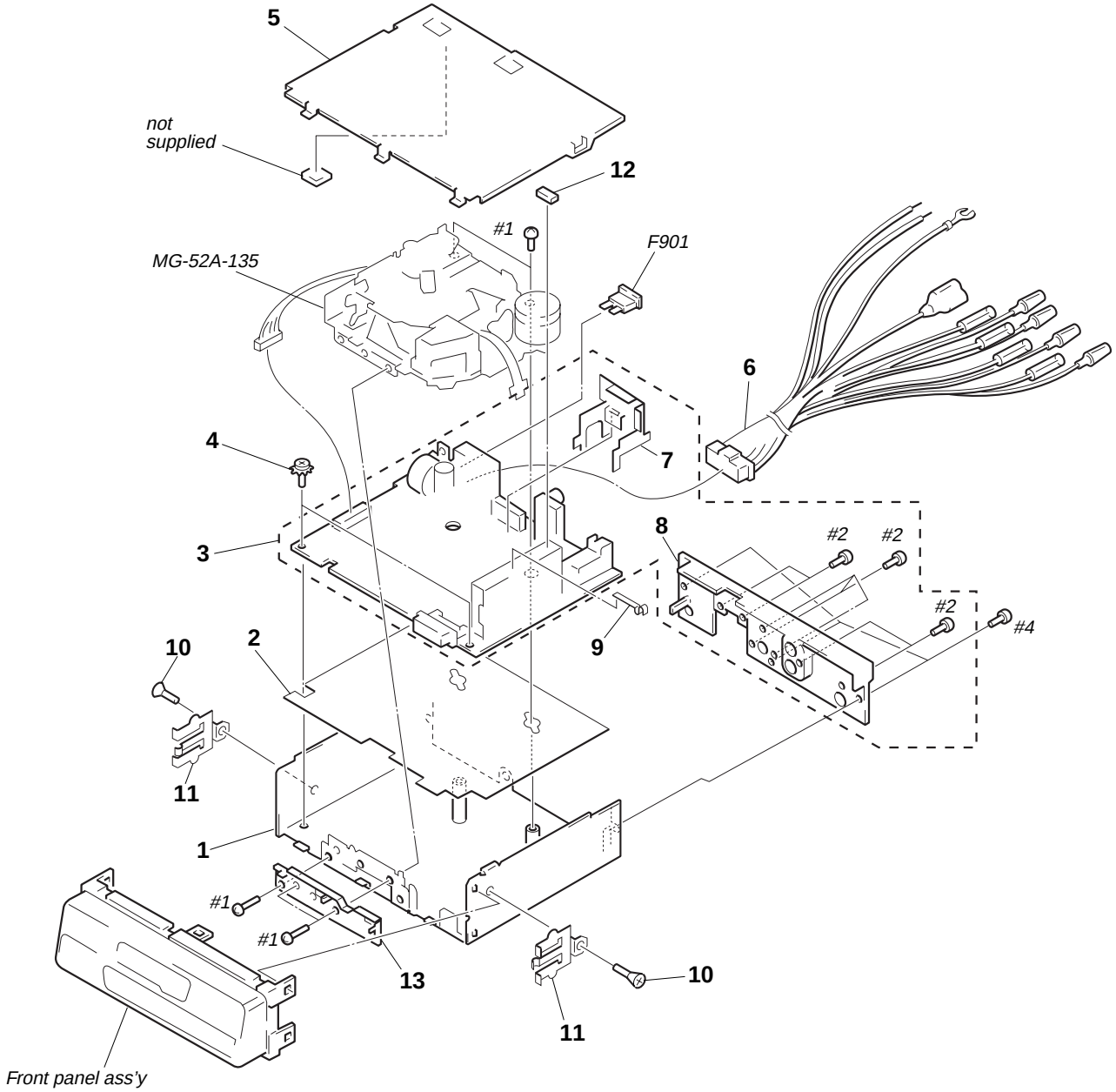


SECTION 7
EXPLODED VIEWS

NOTE:

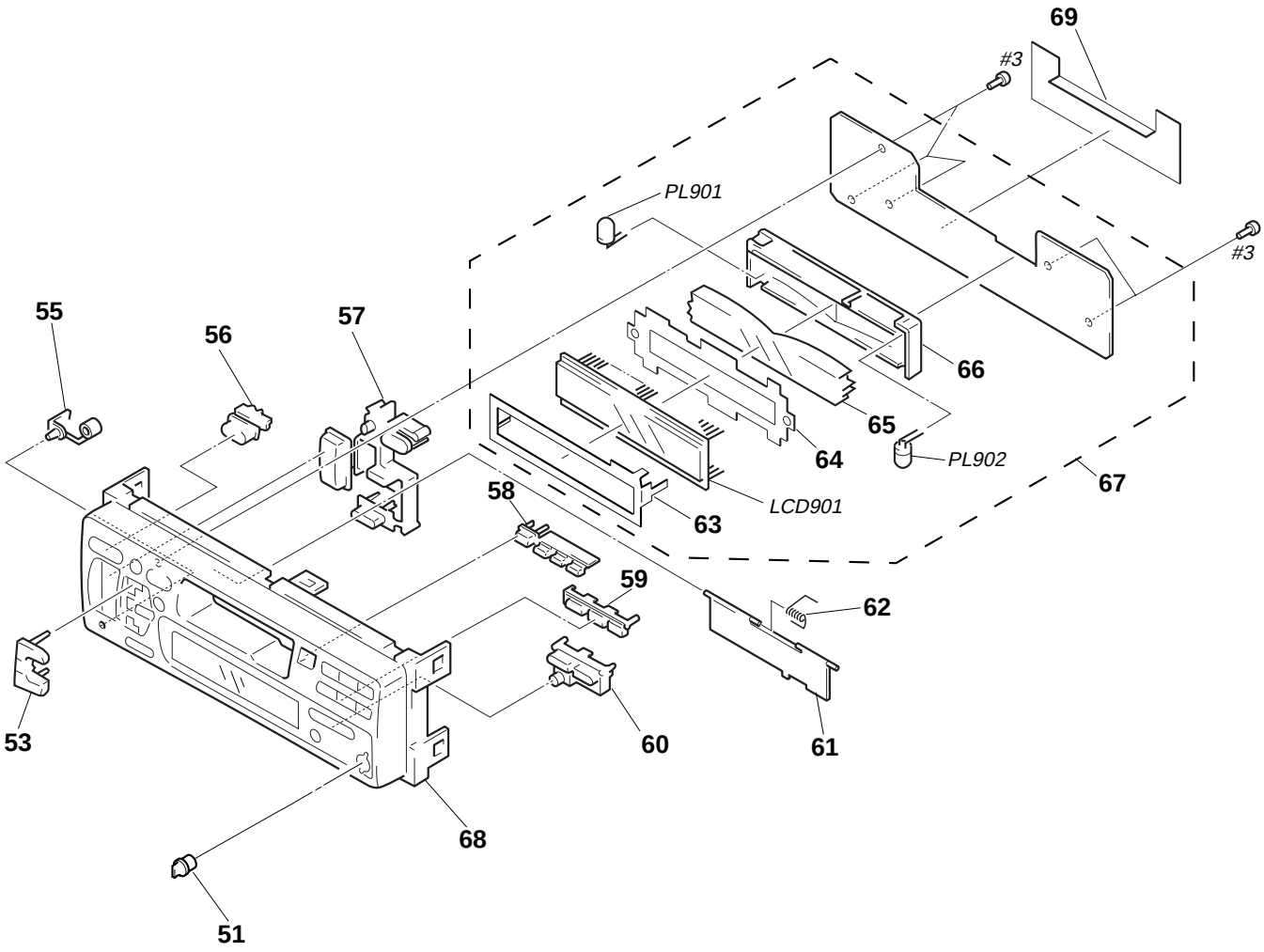
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of the electrical parts list.

(1) CHASSIS SECTION



Ref. No.	Part No.	Description	Remark
* 1	X-3373-606-1	CHASSIS ASSY	
* 2	3-012-600-01	INSULATOR	
* 3	A-3313-099-A	MAIN BOARD, COMPLETE (US)	
* 3	A-3313-103-A	MAIN BOARD, COMPLETE (E, Australian)	
4	3-915-923-01	SCREW, GROUND POINT	
* 5	3-014-065-01	COVER	
6	1-776-207-11	CORD (WITH CONNECTOR)	
* 7	3-012-598-01	BRACKET (IC)	
* 8	3-012-599-01	HEAT SINK	
9	3-937-650-01	PLATE (C), GROUND	
10	3-934-325-01	SCREW, +K (5X8) TAPPING	
11	3-935-568-01	BRACKET (LOCK)	
12	9-911-840-XX	CUSHION (U)	
* 13	3-014-628-01	CHASSIS, FRONT	
F901	1-533-330-11	FUSE (BLADE TYPE) (AUTO FUSE) (10A)	

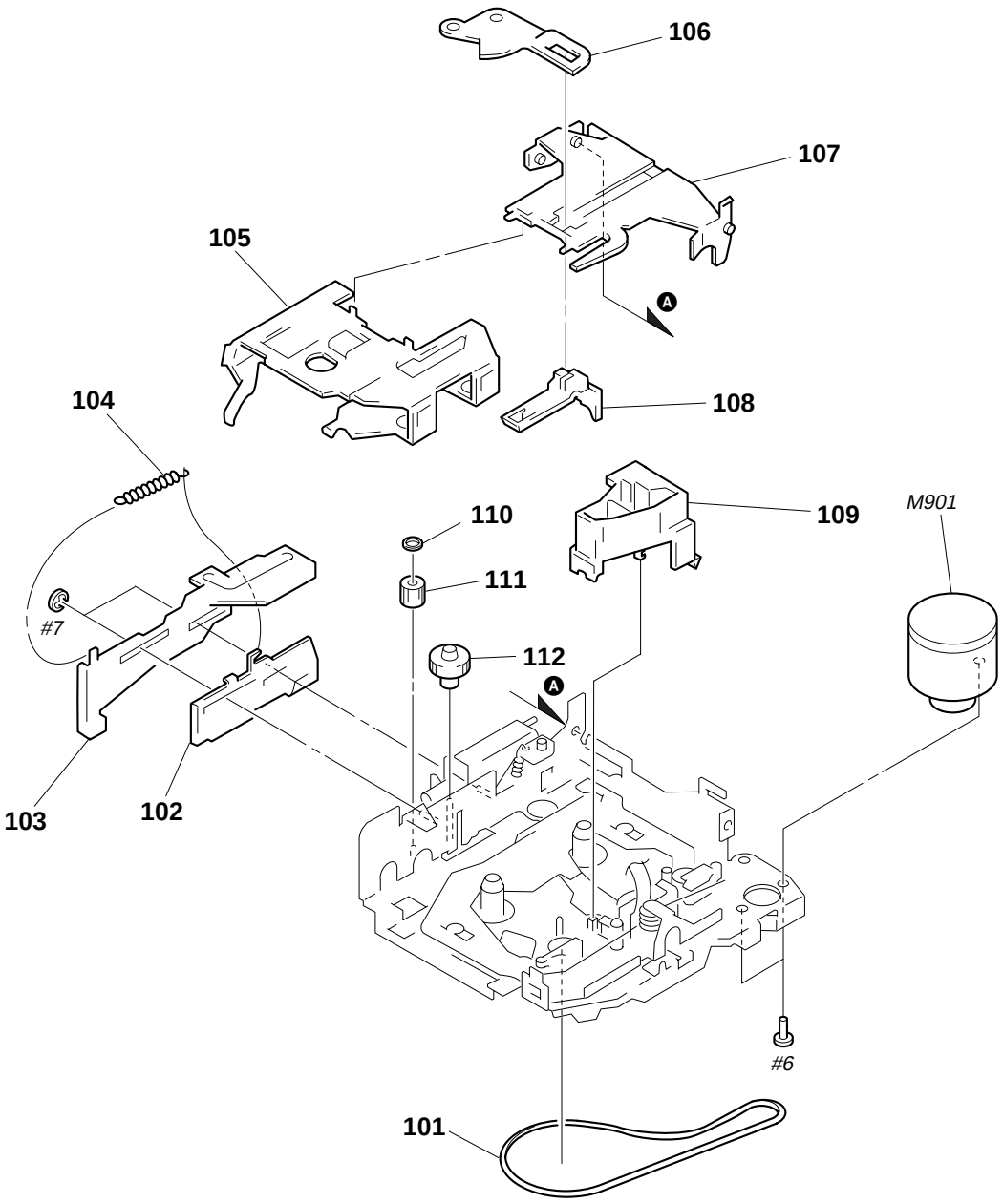
(2) FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
51	3-009-301-01	BUTTON (BASS)	
53	3-009-299-01	BUTTON (L2) (3) (+.–)	
55	3-012-576-01	BUTTON (RESET)	
56	3-009-300-01	BUTTON (SOURCE)	
57	3-009-297-11	BUTTON (L) (●. OFF. + ▶▶I ▶▶. SEEK AMS. I◀◀ ◀◀ –. SEL. MUTE)	
58	3-009-308-01	BUTTON (1-3) (⏏. 1. 2. 3)	
59	3-009-309-11	BUTTON (4-6) (4. 5. 6)	
60	3-009-315-01	BUTTON (R) (S) (BTM. LCL. ●)	
61	3-932-205-61	DOOR, CASSETTE	
62	3-935-003-01	SPRING, TORSION	

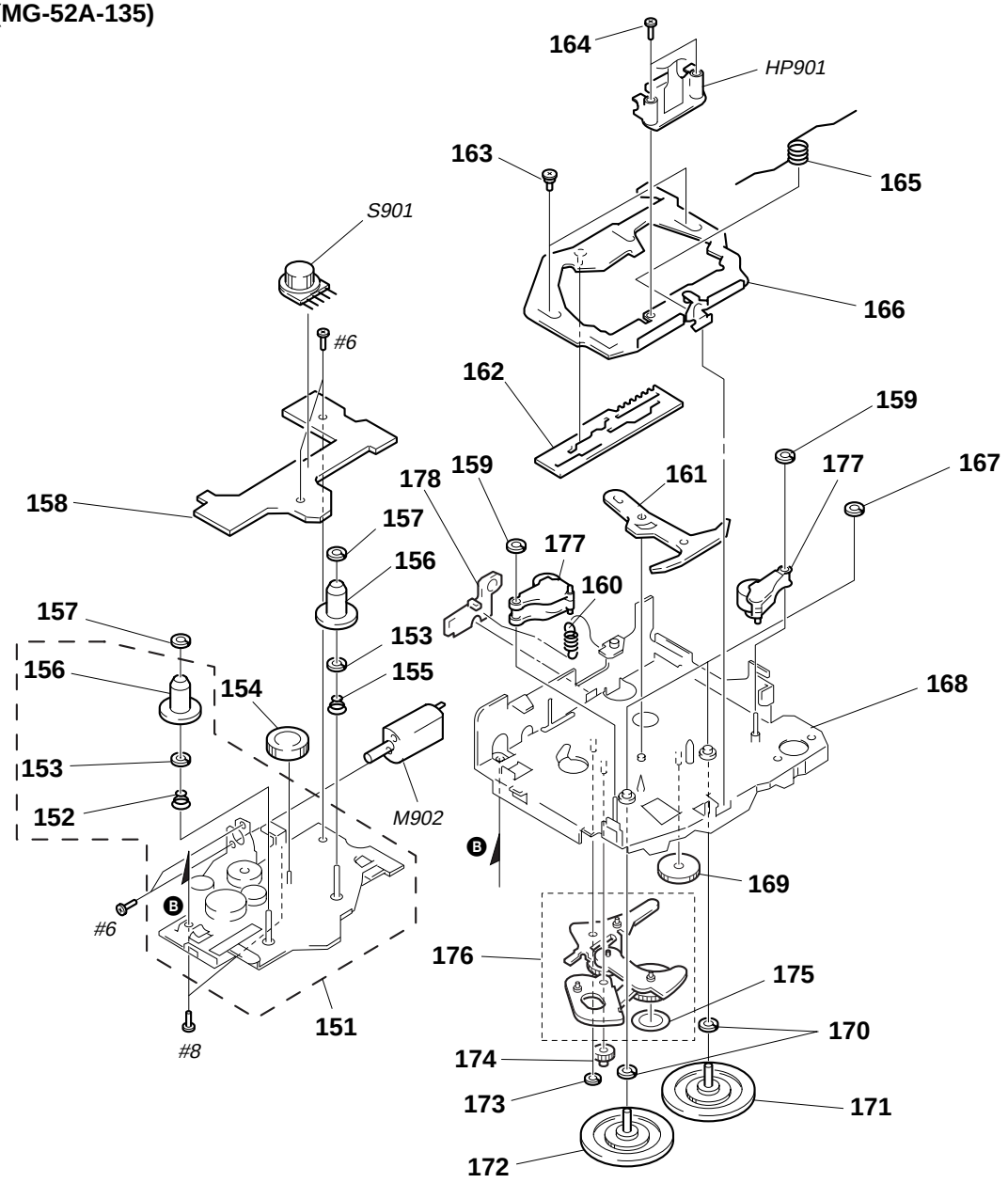
Ref. No.	Part No.	Description	Remark
* 63	3-010-282-01	PLATE (LCD), GROUND	
* 64	3-009-305-01	SHEET (REFLECTOR)	
* 65	3-009-302-01	PLATE (LCD), LIGHT GUIDE	
* 66	3-009-303-01	HOLDER (LCD)	
* 67	A-3294-289-A	CONTROL BOARD, COMPLETE	
68	X-3374-102-1	PANEL SUB ASSY	
* 69	3-016-107-01	SHEET (F)	
LCD901	1-801-588-11	DISPLAY PANEL, LIQUID CRYSTAL	
PL901	1-762-619-11	LAMP, PILOT	
PL902	1-762-619-11	LAMP, PILOT	

(3) MECHANISM DECK SECTION-1 (MG-52A-135)



Ref. No.	Part No.	Description	Remark
101	3-928-675-01	BELT (52)	
* 102	3-928-673-01	LEVER (LDG-A)	
103	3-928-674-01	LEVER (LDG-B)	
104	3-933-341-01	SPRING (LEVER LDG), TENSION	
105	3-928-671-01	HOUSING	
* 106	3-933-347-01	ARM (SUCTION)	
107	3-933-340-01	HANGER	
108	3-933-346-01	CATCHER	
109	3-933-344-01	GUIDE (C)	
110	3-341-753-11	WASHER, POLYETHYLENE	
111	3-933-335-01	GEAR (LDG-FT)	
112	3-928-667-01	GEAR (LDG-A)	
M901	A-3291-665-A	MOTOR ASSY, MAIN (CAPSTAN/REEL)	

(4) MECHANISM DECK SECTION-2 (MG-52A-135)



Ref. No.	Part No.	Description	Remark
151	X-3371-710-1	CHASSIS (S) ASSY	
152	3-933-337-01	SPRING (B-T-R), CONE COIL	
153	3-701-437-01	POLY-SLIDER (A)	
154	3-933-333-01	GEAR (LDG-E)	
155	3-933-339-01	SPRING (B-T-F), CONE COIL	
156	3-933-345-01	GEAR, REEL	
157	3-954-807-01	WASHER	
158	1-660-169-21	REEL BOARD	
159	3-341-752-11	WASHER, POLYETHYLENE	
160	3-933-336-01	SPRING (ARM HANGER), TENSION	
161	3-928-669-01	LEVER (PINCH SELECTION)	
162	3-928-668-01	LEVER (MODE)	
163	3-933-338-01	SCREW (HP), STEP	
164	3-927-100-01	SCREW (+PS 2X10), SPECIAL	
165	3-928-670-01	SPRING (PINCH PRESS)	
* 166	X-3371-712-1	PLATE SUB ASSY, HEAD	

Ref. No.	Part No.	Description	Remark
167	3-364-151-01	WASHER	
* 168	X-3371-701-1	CHASSIS (M) SUB ASSY (A)	
169	X-3371-707-1	CLUTCH (PLAY) ASSY	
170	3-701-437-21	WASHER	
171	3-930-932-01	FLYWHEEL (F) (SEF)	
172	A-3291-667-A	CLUTCH (FR) ASSY	
173	3-321-813-01	WASHER, COTTER POLYETHYLENE	
174	3-933-343-01	GEAR (REVERSE)	
175	3-933-383-01	SEAL (32), REFLECTION	
176	X-3371-703-1	LEVER (GEAR) ASSY	
177	X-3371-713-2	LEVER (PINCH) ASSY	
178	X-3371-706-2	ARM (HANGER) ASSY	
HP901	1-500-157-21	HEAD, MAGNETIC (PLAYBACK)	
M902	A-3291-664-A	MOTOR ASSY, SUB (LOADING/TAPE OPERATION)	
S901	1-692-885-11	SWITCH, ROTARY SLIDE (TAPE OPERATION)	

SECTION 8
ELECTRICAL PARTS LIST

CONTROL

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F: nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service.
  Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA. . : µA. . uPA. . : µPA. .
  uPB. . : µPB. . uPC. . : µPC. .
  uPD. . : µPD. .
- CAPACITORS
  uF: µF
- COILS
  uH: µH

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
*	A-3294-289-A	CONTROL BOARD, COMPLETE			
		**********			
*	3-009-302-01	PLATE (LCD), LIGHT GUIDE			
*	3-009-303-01	HOLDER (LCD)			
*	3-009-305-01	SHEET (REFLECTOR)			
*	3-010-282-01	PLATE (LCD), GROUND			
*	3-012-586-01	INSULATOR (LCD)			
		< CAPACITOR >			
C901	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C902	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C903	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C904	1-163-137-00	CERAMIC CHIP	680PF	5%	50V
		< CONNECTOR >			
CNP901	1-778-960-21	SOCKET, CONNECTOR 12P			
		< DIODE >			
D901	8-719-420-90	DIODE MA8051-M			
		< IC >			
IC901	8-759-443-68	IC LC75834JED			
		< CHIP CONDUCTOR >			
JR901	1-216-296-00	CONDUCTOR, CHIP		(3216)	
JR902	1-216-295-00	CONDUCTOR, CHIP		(2012)	
JR903	1-216-296-00	CONDUCTOR, CHIP		(3216)	
JR904	1-216-296-00	CONDUCTOR, CHIP		(3216)	
JR905	1-216-295-00	CONDUCTOR, CHIP		(2012)	
JR906	1-216-296-00	CONDUCTOR, CHIP		(3216)	
JR907	1-216-296-00	CONDUCTOR, CHIP		(3216)	
JR908	1-216-296-00	CONDUCTOR, CHIP		(3216)	
JR909	1-216-296-00	CONDUCTOR, CHIP		(3216)	
JR910	1-216-296-00	CONDUCTOR, CHIP		(3216)	
		< LIQUID CRYSTAL DISPLAY >			
LCD901	1-801-588-11	DISPLAY PANEL, LIQUID CRYSTAL			
		< PILOT LAMP >			
PL901	1-517-633-11	LAMP, PILOT			
PL902	1-517-633-11	LAMP, PILOT			
		< RESISTOR >			
R901	1-216-045-00	METAL CHIP	680	5%	1/10W
R902	1-216-045-00	METAL CHIP	680	5%	1/10W
R903	1-216-045-00	METAL CHIP	680	5%	1/10W
R904	1-216-049-11	METAL CHIP	1K	5%	1/10W
R905	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R906	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R907	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R908	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R909	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R910	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R911	1-216-073-00	METAL CHIP	10K	5%	1/10W
R921	1-216-045-00	METAL CHIP	680	5%	1/10W
R922	1-216-045-00	METAL CHIP	680	5%	1/10W
R923	1-216-045-00	METAL CHIP	680	5%	1/10W
R924	1-216-049-11	METAL CHIP	1K	5%	1/10W
R925	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R926	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R951	1-216-041-00	METAL CHIP	470	5%	1/10W
R952	1-216-089-00	METAL CHIP	47K	5%	1/10W
R953	1-216-049-11	METAL CHIP	1K	5%	1/10W
R954	1-216-049-11	METAL CHIP	1K	5%	1/10W
R955	1-216-049-11	METAL CHIP	1K	5%	1/10W
R956	1-216-049-11	METAL CHIP	1K	5%	1/10W
R957	1-216-033-00	METAL CHIP	220	5%	1/10W
R958	1-216-033-00	METAL CHIP	220	5%	1/10W
R959	1-216-033-00	METAL CHIP	220	5%	1/10W
R960	1-216-033-00	METAL CHIP	220	5%	1/10W
R961	1-216-025-00	METAL CHIP	100	5%	1/10W
R962	1-216-033-00	METAL CHIP	220	5%	1/10W
R970	1-216-081-00	METAL CHIP	22K	5%	1/10W
R971	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R972	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R973	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
		< SWITCH >			
S901	1-692-431-21	SWITCH, TACTILE (RESET)			
SW901	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (OFF)			
SW902	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (SOURCE)			
SW903	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (MODE)			
SW904	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (+ ▶▶I ▶▶: SEEK/AMS)			
SW905	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (– I◀◀ ◀◀: SEEK/AMS)			
SW906	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (–)			
SW907	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (SEL)			
SW908	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (+)			
SW909	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (MUTE)			

CONTROL MAIN

Ref. No.	Part No.	Description	Remark
SW910	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (DSPL)	
SW911	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (BTM)	
SW912	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (LCL)	
SW921	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (⏏)	
SW922	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (1/INTRO)	
SW923	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (2/REPEAT)	
SW924	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (3)	
SW925	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (6/BL.SKIP)	
SW926	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (5/ATA)	
SW927	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (4)	
SW970	1-762-937-11	SWITCH, ROTARY (D-BASS)	
**********			
*	A-3313-099-A	MAIN BOARD, COMPLETE (US)	
*	A-3313-103-A	MAIN BOARD, COMPLETE (E, Australian)	
		**********	
*	3-012-598-01	BRACKET (IC)	
*	3-012-599-01	HEAT SINK	
	7-685-793-09	SCREW +PTT 2.6X8 (S)	
	7-685-794-09	SCREW +PTT 2.6X10 (S)	
		< CAPACITOR >	
C1	1-163-235-11	CERAMIC CHIP 22PF 5% 50V	
C2	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	
C3	1-124-584-00	ELECT 100uF 20% 10V	
C4	1-124-584-00	ELECT 100uF 20% 10V	
C5	1-124-584-00	ELECT 100uF 20% 10V	
C6	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C7	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C8	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C9	1-163-037-11	CERAMIC CHIP 0.022uF 10% 25V	
C10	1-163-205-00	CERAMIC CHIP 0.001uF 10% 50V	
C11	1-163-077-00	CERAMIC CHIP 0.1uF 10% 25V	
C12	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C13	1-163-251-11	CERAMIC CHIP 100PF 5% 50V	
C14	1-163-251-11	CERAMIC CHIP 100PF 5% 50V	
C15	1-163-251-11	CERAMIC CHIP 100PF 5% 50V	
C16	1-124-589-11	ELECT 47uF 20% 16V	
C17	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C18	1-136-169-00	FILM 0.22uF 5% 50V	
C19	1-137-368-11	FILM 0.0047uF 5% 50V	
C20	1-163-059-00	CERAMIC CHIP 0.01uF 10% 50V	
C21	1-128-054-11	ELECT 22uF 20% 10V	
C22	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C23	1-163-222-11	CERAMIC CHIP 5PF 0.5PF 50V	
C24	1-163-251-11	CERAMIC CHIP 100PF 5% 50V	
C25	1-163-205-00	CERAMIC CHIP 0.001uF 5% 50V	
C101	1-163-139-00	CERAMIC CHIP 820PF 5% 50V	
C102	1-163-139-00	CERAMIC CHIP 820PF 5% 50V	
C104	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C105	1-164-489-11	CERAMIC CHIP 0.22uF 10% 16V	
C106	1-163-251-11	CERAMIC CHIP 100PF 5% 50V	
C107	1-126-163-11	ELECT 4.7uF 20% 50V	
C108	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C122	1-163-022-00	CERAMIC CHIP 0.012uF 10% 50V (US)	
C122	1-164-232-11	CERAMIC CHIP 0.01uF 50V (E, Australian)	
C123	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C151	1-162-587-11	CERAMIC CHIP 0.039uF 10% 25V (US)	
C151	1-163-986-00	CERAMIC CHIP 0.027uF 10% 25V (E, Australian)	
C153	1-126-301-11	ELECT 1uF 20% 50V	
C161	1-126-301-11	ELECT 1uF 20% 50V	
C162	1-126-301-11	ELECT 1uF 20% 50V	
C163	1-164-182-11	CERAMIC CHIP 0.0033uF 10% 50V	
C164	1-163-037-11	CERAMIC CHIP 0.022uF 10% 25V	
C165	1-126-157-11	ELECT 10uF 20% 16V	
C166	1-164-492-11	CERAMIC CHIP 0.15uF 10% 16V	
C167	1-164-492-11	CERAMIC CHIP 0.15uF 10% 16V	
C168	1-126-157-11	ELECT 10uF 20% 16V	
C171	1-126-160-11	ELECT 1uF 20% 50V	
C173	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	
C175	1-126-160-11	ELECT 1uF 20% 50V	
C181	1-126-160-11	ELECT 1uF 20% 50V	
C182	1-163-251-11	CERAMIC CHIP 100PF 5% 50V	
C183	1-163-205-00	CERAMIC CHIP 0.001uF 10% 50V	
C185	1-126-160-11	ELECT 1uF 20% 50V	
C201	1-163-139-00	CERAMIC CHIP 820PF 5% 50V	
C202	1-163-139-00	CERAMIC CHIP 820PF 5% 50V	
C204	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C205	1-164-489-11	CERAMIC CHIP 0.22uF 10% 16V	
C206	1-163-251-11	CERAMIC CHIP 100PF 5% 50V	
C207	1-126-163-11	ELECT 4.7uF 20% 50V	
C208	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C223	1-163-077-00	CERAMIC CHIP 0.1uF 10% 25V	
C251	1-162-587-11	CERAMIC CHIP 0.039uF 10% 25V (US)	
C251	1-163-986-00	CERAMIC CHIP 0.027uF 10% 25V (E, Australian)	
C253	1-126-301-11	ELECT 1uF 20% 50V	
C261	1-126-301-11	ELECT 1uF 20% 50V	
C262	1-126-301-11	ELECT 1uF 20% 50V	
C263	1-164-182-11	CERAMIC CHIP 0.0033uF 10% 50V	
C264	1-163-037-11	CERAMIC CHIP 0.022uF 10% 25V	
C265	1-126-157-11	ELECT 10uF 20% 16V	
C266	1-164-492-11	CERAMIC CHIP 0.15uF 10% 16V	
C267	1-164-492-11	CERAMIC CHIP 0.15uF 10% 16V	
C268	1-126-157-11	ELECT 10uF 20% 16V	
C271	1-126-160-11	ELECT 1uF 20% 50V	
C273	1-163-205-00	CERAMIC CHIP 0.001uF 10% 50V	
C275	1-126-160-11	ELECT 1uF 20% 50V	
C281	1-126-160-11	ELECT 1uF 20% 50V	
C282	1-163-251-11	CERAMIC CHIP 100PF 5% 50V	
C283	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	
C285	1-126-160-11	ELECT 1uF 20% 50V	
C301	1-124-234-00	ELECT 22uF 20% 16V	
C302	1-126-157-11	ELECT 10uF 20% 16V	
C303	1-163-251-11	CERAMIC CHIP 100PF 5% 50V	
C305	1-126-159-11	ELECT 0.47uF 20% 50V	
C306	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C307	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C335	1-124-234-00	ELECT 22uF 20% 16V	
C351	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C352	1-124-584-00	ELECT 100uF 20% 10V	
C353	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C354	1-126-157-11	ELECT 10uF 20% 16V	
C356	1-126-934-11	ELECT 220uF 20% 16V	
C362	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C401	1-124-584-00	ELECT 100uF 20% 10V	

Ref. No.	Part No.	Description			Remark
C402	1-124-228-11	ELECT	22uF	20%	10V
C406	1-124-584-00	ELECT	100uF	20%	10V
C407	1-124-584-00	ELECT	100uF	20%	10V
C408	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C501	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C502	1-163-091-00	CERAMIC CHIP	8PF	0.5PF	50V
C503	1-126-157-11	ELECT	10uF	20%	16V
C504	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C505	1-124-589-11	ELECT	47uF	20%	16V
C506	1-124-257-00	ELECT	2.2uF	20%	50V
C507	1-126-157-11	ELECT	10uF	20%	16V
C508	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C509	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C510	1-163-203-00	CERAMIC CHIP	820PF	10%	50V
C511	1-124-472-11	ELECT	470uF	20%	10V
C512	1-115-589-11	ELECT(BLOCK)	0.047uF		5.5V
C517	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C561	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C563	1-124-589-11	ELECT	47uF	20%	16V
C601	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C602	1-124-257-00	ELECT	2.2uF	20%	50V
C603	1-126-157-11	ELECT	10uF	20%	16V
C604	1-124-234-00	ELECT	22uF	20%	16V
C605	1-126-157-11	ELECT	10uF	20%	16V
C608	1-124-234-00	ELECT	22uF	20%	16V
C704	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C707	1-126-163-11	ELECT	4.7uF	20%	50V
C735	1-136-165-00	FILM	0.1uF	5%	50V
C736	1-136-165-00	FILM	0.1uF	5%	50V
C745	1-136-165-00	FILM	0.1uF	5%	50V
C746	1-136-165-00	FILM	0.1uF	5%	50V
C751	1-164-299-11	CERAMIC CHIP	0.22uF	10%	25V
C752	1-126-157-11	ELECT	10uF	20%	16V
C753	1-164-299-11	CERAMIC CHIP	0.22uF	10%	25V
C775	1-136-165-00	FILM	0.1uF	5%	50V
C776	1-136-165-00	FILM	0.1uF	5%	50V
C785	1-136-165-00	FILM	0.1uF	5%	50V
C786	1-136-165-00	FILM	0.1uF	5%	50V
C787	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C788	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C789	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C790	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C791	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C801	1-113-501-11	ELECT	4700uF	20%	16V
C802	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C803	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C804	1-163-038-00	CERAMIC CHIP	0.1uF		25V
		< CONNECTOR >			
CN1	1-766-260-11	CONNECTOR, FFC/FPC (ZIF) 7P			
* CN351	1-506-995-11	PIN, CONNECTOR (PC BOARD) 13P			
CN401	1-774-698-11	JACK, PIN 2P (LINE OUT)			
CN602	1-770-407-11	CONNECTOR, BOARD TO BOARD 12P			
CN801	1-774-701-11	PIN, CONNECTOR 16P			
		< CONPOSITION CIRCUIT BLOCK >			
CP1	1-519-504-11	GAP, DISCHARGE			

Ref. No.	Part No.	Description	Remark
		< DIODE >	
D1	8-719-040-04	DIODE MA721WK-(TX)	
D2	8-719-010-34	DIODE UZ-4.7BSC	
D3	8-719-048-54	DIODE MTZJ-T-77-10A	
D301	8-719-404-46	DIODE MA110	
D351	8-719-110-14	DIODE RD9.1ESB3	
D352	8-719-991-33	DIODE 1SS133T-77	
D501	8-719-404-46	DIODE MA110	
D502	8-719-404-46	DIODE MA110	
D503	8-719-404-46	DIODE MA110	
D504	8-719-109-71	DIODE RD3.9ES-B1	
D505	8-719-991-33	DIODE 1SS133T-77	
D520	8-719-404-46	DIODE MA110	
D563	8-719-109-93	DIODE RD6.2ESB2	
D564	8-719-109-93	DIODE RD6.2ESB2	
D566	8-719-404-46	DIODE MA110	
D601	8-719-923-74	DIODE MTZJ-T-77-11A	
D701	8-719-110-49	DIODE RD18ESB2	
D706	8-719-110-03	DIODE RD7.5ESB2	
D707	8-719-110-06	DIODE RD8.2ESB1	
D801	8-719-049-38	DIODE 1N5404TU	
D802	8-719-991-33	DIODE 1SS133T-77	
D803	8-719-991-33	DIODE 1SS133T-77	
D805	8-719-110-49	DIODE RD18BSB2	
		< IC >	
IC301	8-752-079-78	IC CXA2509AQ-T4	
IC361	8-759-395-97	IC MM1322XFBE	
IC401	8-759-443-67	IC LC75373ED	
IC501	8-759-461-94	IC uPD17707GC-522-3B9	
IC502	8-759-363-81	IC XC61AN4002PR	
IC601	8-759-347-49	IC BA3918-V2	
IC751	8-759-369-41	IC HA13155	
		< JACK >	
J1	1-764-808-14	JACK (ANT) (ANT IN)	
J501	1-764-270-21	JACK (REMOTE IN)	
		< CHIP CONDUCTOR >	
JC1	1-216-295-00	CONDUCTOR, CHIP	(2012)
JC2	1-216-295-00	CONDUCTOR, CHIP	(2012)
JC3	1-216-296-00	CONDUCTOR, CHIP	(3216)
JC4	1-216-296-00	CONDUCTOR, CHIP	(3216)
JC6	1-216-295-00	CONDUCTOR, CHIP	(2012)
JC7	1-216-295-00	CONDUCTOR, CHIP	(2012)
JC8	1-216-296-00	CONDUCTOR, CHIP	(3216)
JC9	1-216-296-00	CONDUCTOR, CHIP	(3216)
JC10	1-216-296-00	CONDUCTOR, CHIP	(3216)
JC11	1-216-295-00	CONDUCTOR, CHIP	(2012)
JC12	1-216-296-00	CONDUCTOR, CHIP	(3216)
JC13	1-216-296-00	CONDUCTOR, CHIP	(3216)
JC14	1-216-295-00	CONDUCTOR, CHIP	(2012)
JC15	1-216-296-00	CONDUCTOR, CHIP	(3216)
JC16	1-216-296-00	CONDUCTOR, CHIP	(3216)
JC17	1-216-296-00	CONDUCTOR, CHIP	(3216)
JC18	1-216-296-00	CONDUCTOR, CHIP	(3216)
JC19	1-216-296-00	CONDUCTOR, CHIP	(3216)
JC20	1-216-295-00	CONDUCTOR, CHIP	(2012)

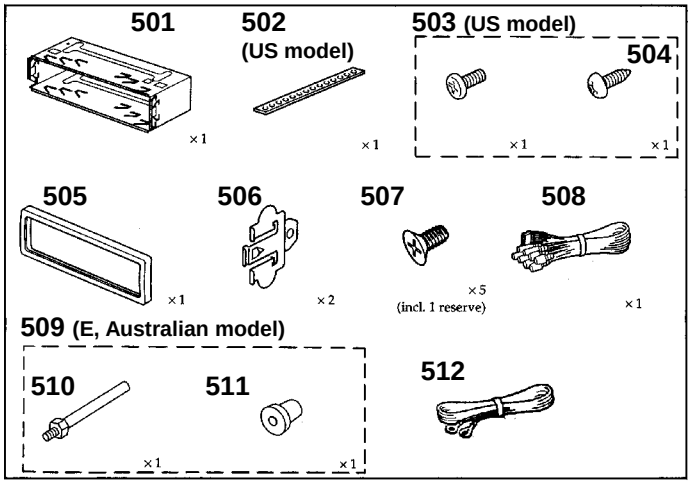
MAIN

Ref. No.	Part No.	Description		Remark
JC21	1-216-295-00	CONDUCTOR, CHIP	(2012)	
JC22	1-216-295-00	CONDUCTOR, CHIP	(2012)	
JC23	1-216-295-00	CONDUCTOR, CHIP	(2012)	
JC24	1-216-295-00	CONDUCTOR, CHIP	(2012)	
JC100	1-216-295-00	CONDUCTOR, CHIP	(2012)	
JC101	1-216-295-00	CONDUCTOR, CHIP	(2012)	
JC150	1-216-295-00	CONDUCTOR, CHIP	(2012)	
JC153	1-216-295-00	CONDUCTOR, CHIP	(2012)	
JC200	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JC201	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JC202	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JC253	1-216-295-00	CONDUCTOR, CHIP	(2012)	
JC501	1-216-295-00	CONDUCTOR, CHIP	(2012)	(US)
JC502	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JC536	1-216-295-00	CONDUCTOR, CHIP	(2012)	
JC701	1-216-295-00	CONDUCTOR, CHIP	(2012)	
JC705	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JC707	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JC719	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JC720	1-216-295-00	CONDUCTOR, CHIP	(2012)	
JC721	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JC722	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JC723	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JC724	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JC725	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JC726	1-216-295-00	CONDUCTOR, CHIP	(2012)	
JC728	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JC729	1-216-295-00	CONDUCTOR, CHIP	(2012)	
JC730	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JC731	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JC732	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JC733	1-216-295-00	CONDUCTOR, CHIP	(2012)	
JC734	1-216-295-00	CONDUCTOR, CHIP	(2012)	
JC735	1-216-295-00	CONDUCTOR, CHIP	(2012)	
JC736	1-216-295-00	CONDUCTOR, CHIP	(2012)	
JC737	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JC739	1-216-295-00	CONDUCTOR, CHIP	(2012)	
JC740	1-216-295-00	CONDUCTOR, CHIP	(2012)	
JC742	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JC743	1-216-295-00	CONDUCTOR, CHIP	(2012)	
JC744	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JC745	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JC747	1-216-295-00	CONDUCTOR, CHIP	(2012)	
JC748	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JC750	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JC751	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JC753	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JC754	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JC755	1-216-295-00	CONDUCTOR, CHIP	(2012)	
JC756	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JC760	1-216-295-00	CONDUCTOR, CHIP	(2012)	
JC761	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JC763	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JC764	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JC767	1-216-295-00	CONDUCTOR, CHIP	(2012)	
JC768	1-216-295-00	CONDUCTOR, CHIP	(2012)	
JC769	1-216-295-00	CONDUCTOR, CHIP	(2012)	
JC770	1-216-295-00	CONDUCTOR, CHIP	(2012)	

Ref. No.	Part No.	Description				Remark
		< COIL >				
L501	1-410-971-11	INDUCTOR	10uH			
L801	1-416-046-11	COIL, CHOKE	400uH			
		< TRANSISTOR >				
Q1	8-729-900-53	TRANSISTOR	DTC114EK			
Q2	8-729-920-74	TRANSISTOR	2SC2412K-QR			
Q3	8-729-027-23	TRANSISTOR	DTA114EKA-T146			
Q4	8-729-025-28	TRANSISTOR	2SK1828			
Q171	8-729-920-21	TRANSISTOR	DTC314TKH04			
Q181	8-729-920-21	TRANSISTOR	DTC314TKH04			
Q271	8-729-920-21	TRANSISTOR	DTC314TKH04			
Q281	8-729-920-21	TRANSISTOR	DTC314TKH04			
Q351	8-729-015-11	TRANSISTOR	2SD1802FAST-TL			
Q353	8-729-900-53	TRANSISTOR	DTC114EK			
Q354	8-729-106-60	TRANSISTOR	2SB1115A-YQ			
Q355	8-729-900-53	TRANSISTOR	DTC114EK			
Q501	8-729-027-23	TRANSISTOR	DTA114EKA-T146			
Q502	8-729-920-74	TRANSISTOR	2SC2412K-QR			
Q503	8-729-027-23	TRANSISTOR	DTA114EKA-T146			
Q504	8-729-027-23	TRANSISTOR	DTA114EKA-T146			
Q506	8-729-216-22	TRANSISTOR	2SA1162-G			
Q601	8-729-030-18	TRANSISTOR	2SD2525			
Q602	8-729-030-18	TRANSISTOR	2SD2525			
Q603	8-729-027-23	TRANSISTOR	DTA114EKA-T146			
Q604	8-729-900-53	TRANSISTOR	DTC114EK			
Q701	8-729-900-53	TRANSISTOR	DTC114EK			
Q702	8-729-027-59	TRANSISTOR	DTC144EKA-T146			
Q703	8-729-920-74	TRANSISTOR	2SC2412K-QR			
Q704	8-729-027-38	TRANSISTOR	DTA144EKA-T146			
		< RESISTOR >				
R1	1-249-417-11	CARBON	1K	5%	1/4W	
R2	1-216-198-00	METAL CHIP	1K	5%	1/8W	
R3	1-216-049-11	METAL CHIP	1K	5%	1/10W	
R5	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R6	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R7	1-216-109-00	METAL CHIP	330K	5%	1/10W	
R8	1-216-266-11	METAL CHIP	680K	5%	1/8W	
R9	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R10	1-216-049-11	METAL CHIP	1K	5%	1/10W	
R11	1-216-053-00	METAL CHIP	1.5K	5%	1/10W	
R12	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R13	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R14	1-216-214-00	METAL CHIP	4.7K	5%	1/8W	
R15	1-216-029-00	METAL CHIP	150	5%	1/10W	
R17	1-216-041-00	METAL CHIP	470	5%	1/10W	
R101	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R102	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R103	1-216-041-00	METAL CHIP	470	5%	1/10W	
R104	1-216-109-00	METAL CHIP	330K	5%	1/10W	
R105	1-216-077-00	METAL CHIP	15K	5%	1/10W	
R106	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R107	1-249-424-11	CARBON	3.9K	5%	1/4W	
R108	1-216-222-00	METAL CHIP	10K	5%	1/8W	
R121	1-249-431-11	CARBON	15K	5%	1/4W	(US)
R121	1-249-432-11	CARBON	18K	5%	1/4W	(E, Australian)

Ref. No.	Part No.	Description			Remark
R152	1-216-067-00	METAL CHIP	5.6K	5%	1/10W (E, Australian)
R152	1-216-071-00	METAL CHIP	8.2K	5%	1/10W (US)
R161	1-216-063-00	METAL CHIP	3.9K	5%	1/10W
R171	1-249-409-11	CARBON	220	5%	1/4W
R172	1-216-073-00	METAL CHIP	10K	5%	1/10W
R173	1-216-081-00	METAL CHIP	22K	5%	1/10W
R174	1-216-129-00	METAL CHIP	2.2M	5%	1/10W
R175	1-216-089-00	METAL CHIP	47K	5%	1/10W
R176	1-216-295-00	CONDUCTOR, CHIP		(2012)	
R181	1-249-409-11	CARBON	220	5%	1/4W
R182	1-216-073-00	METAL CHIP	10K	5%	1/10W
R183	1-216-081-00	METAL CHIP	22K	5%	1/10W
R184	1-216-129-00	METAL CHIP	2.2M	5%	1/10W
R185	1-216-089-00	METAL CHIP	47K	5%	1/10W
R186	1-216-295-00	CONDUCTOR, CHIP		(2012)	
R201	1-216-085-00	METAL CHIP	33K	5%	1/10W
R202	1-216-085-00	METAL CHIP	33K	5%	1/10W
R203	1-216-041-00	METAL CHIP	470	5%	1/10W
R204	1-216-109-00	METAL CHIP	330K	5%	1/10W
R205	1-216-077-00	METAL CHIP	15K	5%	1/10W
R206	1-216-079-00	METAL CHIP	18K	5%	1/10W
R207	1-216-063-00	METAL CHIP	3.9K	5%	1/10W
R208	1-216-073-00	METAL CHIP	10K	5%	1/10W
R252	1-216-067-00	METAL CHIP	5.6K	5%	1/10W (E, Australian)
R252	1-216-071-00	METAL CHIP	8.2K	5%	1/10W (US)
R261	1-216-063-00	METAL CHIP	3.9K	5%	1/10W
R271	1-249-409-11	CARBON	220	5%	1/4W
R272	1-216-073-00	METAL CHIP	10K	5%	1/10W
R273	1-216-081-00	METAL CHIP	22K	5%	1/10W
R274	1-216-129-00	METAL CHIP	2.2M	5%	1/10W
R275	1-216-089-00	METAL CHIP	47K	5%	1/10W
R276	1-216-295-00	CONDUCTOR, CHIP		(2012)	
R281	1-249-409-11	CARBON	220	5%	1/4W
R282	1-216-073-00	METAL CHIP	10K	5%	1/10W
R283	1-216-081-00	METAL CHIP	22K	5%	1/10W
R284	1-216-129-00	METAL CHIP	2.2M	5%	1/10W
R285	1-216-089-00	METAL CHIP	47K	5%	1/10W
R286	1-216-295-00	CONDUCTOR, CHIP		(2012)	
R301	1-216-079-00	METAL CHIP	18K	5%	1/10W
R302	1-216-097-00	METAL CHIP	100K	5%	1/10W
R303	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R304	1-216-081-00	METAL CHIP	22K	5%	1/10W
R305	1-249-417-11	CARBON	1K	5%	1/4W
R306	1-249-417-11	CARBON	1K	5%	1/4W
R307	1-249-417-11	CARBON	1K	5%	1/4W
R308	1-216-113-00	METAL CHIP	470K	5%	1/10W
R309	1-216-246-00	METAL CHIP	100K	5%	1/8W
R351	1-216-049-11	METAL CHIP	1K	5%	1/10W
R352	1-249-385-11	CARBON	2.2	5%	1/6W
R353	1-249-385-11	CARBON	2.2	5%	1/6W
R354	1-216-073-00	METAL CHIP	10K	5%	1/10W
R355	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R360	1-216-001-00	METAL CHIP	10	5%	1/10W
R401	1-249-393-11	CARBON	10	5%	1/4W
R501	1-216-097-00	METAL CHIP	100K	5%	1/10W
R502	1-216-238-00	METAL CHIP	47K	5%	1/8W (E, Australian)
R502	1-216-246-00	METAL CHIP	100K	5%	1/8W (US)
R503	1-216-242-00	METAL CHIP	68K	5%	1/8W (US)
R503	1-216-246-00	METAL CHIP	100K	5%	1/8W (E, Australian)
R504	1-249-429-11	CARBON	10K	5%	1/4W
R506	1-216-113-00	METAL CHIP	470K	5%	1/10W
R508	1-249-429-11	CARBON	10K	5%	1/4W
R509	1-249-429-11	CARBON	10K	5%	1/4W
R512	1-216-097-00	METAL CHIP	100K	5%	1/10W
R515	1-216-097-00	METAL CHIP	100K	5%	1/10W
R516	1-249-441-11	CARBON	100K	5%	1/4W
R517	1-216-097-00	METAL CHIP	100K	5%	1/10W
R518	1-216-097-00	METAL CHIP	100K	5%	1/10W
R519	1-216-246-00	METAL CHIP	100K	5%	1/8W
R520	1-216-246-00	METAL CHIP	100K	5%	1/8W
R521	1-249-441-11	CARBON	100K	5%	1/4W
R522	1-216-097-00	METAL CHIP	100K	5%	1/10W
R523	1-216-097-00	METAL CHIP	100K	5%	1/10W
R524	1-249-441-11	CARBON	100K	5%	1/4W
R527	1-216-246-00	METAL CHIP	100K	5%	1/8W
R528	1-216-097-00	METAL CHIP	100K	5%	1/10W
R530	1-216-097-00	METAL CHIP	100K	5%	1/10W
R531	1-216-097-00	METAL CHIP	100K	5%	1/10W
R533	1-216-097-00	METAL CHIP	100K	5%	1/10W
R534	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R535	1-216-049-11	METAL CHIP	1K	5%	1/10W
R540	1-216-049-11	METAL CHIP	1K	5%	1/10W
R541	1-249-417-11	CARBON	1K	5%	1/4W
R542	1-249-417-11	CARBON	1K	5%	1/4W
R543	1-249-417-11	CARBON	1K	5%	1/4W
R544	1-249-417-11	CARBON	1K	5%	1/4W
R546	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R547	1-216-675-11	METAL CHIP	10K	0.50%	1/10W
R549	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R550	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R551	1-216-174-00	METAL CHIP	100	5%	1/8W
R552	1-216-174-00	METAL CHIP	100	5%	1/8W
R553	1-216-097-00	METAL CHIP	100K	5%	1/10W
R561	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R568	1-216-097-00	METAL CHIP	100K	5%	1/10W
R572	1-249-441-11	CARBON	100K	5%	1/4W
R573	1-249-417-11	CARBON	1K	5%	1/4W
R575	1-249-441-11	CARBON	100K	5%	1/4W
R576	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R578	1-249-413-11	CARBON	470	5%	1/4W
R579	1-249-413-11	CARBON	470	5%	1/4W
R580	1-249-421-11	CARBON	2.2K	5%	1/4W
R581	1-249-421-11	CARBON	2.2K	5%	1/4W
R582	1-249-421-11	CARBON	2.2K	5%	1/4W
R583	1-249-417-11	CARBON	1K	5%	1/4W
R584	1-249-417-11	CARBON	1K	5%	1/4W
R585	1-249-417-11	CARBON	1K	5%	1/4W
R586	1-249-417-11	CARBON	1K	5%	1/4W
R587	1-249-417-11	CARBON	1K	5%	1/4W
R588	1-249-417-11	CARBON	1K	5%	1/4W

MAIN

Ref. No.	Part No.	Description			Remark
R589	1-249-417-11	CARBON	1K	5%	1/4W
R590	1-249-417-11	CARBON	1K	5%	1/4W
R591	1-216-081-00	METAL CHIP	22K	5%	1/10W
R592	1-216-105-00	METAL CHIP	220K	5%	1/10W
R593	1-216-073-00	METAL CHIP	10K	5%	1/10W
R596	1-216-097-00	METAL CHIP	100K	5%	1/10W
R597	1-249-437-11	CARBON	47K	5%	1/4W
R598	1-249-437-11	CARBON	47K	5%	1/4W
R601	1-249-385-11	CARBON	2.2	5%	1/6W
R602	1-249-385-11	CARBON	2.2	5%	1/6W
R603	1-249-411-11	CARBON	330	5%	1/4W
R708	1-216-113-00	METAL CHIP	470K	5%	1/10W
R709	1-216-073-00	METAL CHIP	10K	5%	1/10W
R711	1-216-246-00	METAL CHIP	100K	5%	1/8W
R712	1-216-089-00	METAL CHIP	47K	5%	1/10W
R713	1-216-689-11	METAL CHIP	39K	0.5%	1/10W
R735	1-249-385-11	CARBON	2.2	5%	1/6W
R736	1-216-134-00	METAL CHIP	2.2	5%	1/8W
R745	1-249-385-11	CARBON	2.2	5%	1/6W
R746	1-249-385-11	CARBON	2.2	5%	1/6W
R775	1-216-298-00	METAL CHIP	2.2	5%	1/10W
R776	1-249-385-11	CARBON	2.2	5%	1/6W
R785	1-249-385-11	CARBON	2.2	5%	1/6W
R786	1-249-385-11	CARBON	2.2	5%	1/6W
R851	1-247-807-11	CARBON	100	5%	1/4W
R852	1-216-025-00	METAL CHIP	100	5%	1/10W
R857	1-247-807-11	CARBON	100	5%	1/4W
R858	1-216-222-00	METAL CHIP	10K	5%	1/8W
R859	1-216-073-00	METAL CHIP	10K	5%	1/10W
R998	1-216-242-00	METAL CHIP	68K	5%	1/8W (E, Australian)
R999	1-216-097-00	METAL CHIP	100K	5%	1/10W (E, Australian)
		< SWITCH >			
S501	1-554-222-00	SWITCH, SLIDE (POWER SELECT)			
S502	1-554-222-00	SWITCH, SLIDE (FREQUENCY SELECT) (E, Australian)			
		< TUNER >			
TU1	A-3282-034-A	TUNER UNIT TUX-010 (E)			
		< VIBRATOR >			
X501	1-578-785-11	VIBRATOR, CRYSTAL (4.5MHz)			
**********					
		MISCELLANEOUS			
		**********			
6	1-776-207-11	CORD (WITH CONNECTOR)			
158	1-660-169-21	REEL BOARD			
F901	1-533-330-11	FUSE (BLADE TYPE) (AUTO FUSE) (10A)			
HP901	1-500-157-21	HEAD, MAGNETIC (PLAYBACK)			
M901	A-3291-665-A	MOTOR ASSY, MAIN (CAPSTAN/REEL)			
M902	A-3291-664-A	MOTOR ASSY, SUB (LOADING/TAPE OPERATION)			
S901	1-692-885-11	SWITCH, ROTARY SLIDE (TAPE OPERATION)			
**********					

Ref. No.	Part No.	Description	Remark
		**********	
		HARDWARE LIST	
		**********	
#1	7-685-792-09	SCREW +PTT 2.6X6 (S)	
#2	7-685-794-09	SCREW +PTT 2.6X10 (S)	
#3	7-685-105-19	TPG +P 2X8, TYPE 2, NON-SLIT	
#4	7-685-793-09	SCREW +PTT 2.6X8 (S)	
#6	7-627-553-17	PRECISION SCREW +P 2X2 TYPE 3	
#7	7-624-104-04	STOP RING 2.0, TYPE -E	
#8	7-628-253-00	SCREW +PS 2X4	
**********			
		ACCESSORIES & PACKING MATERIALS	
		**********	
	3-859-730-11	MANUAL, INSTRUCTION (ENGLISH, SPANISH, CHINESE) (E, Australian)	
	3-859-730-21	MANUAL, INSTRUCTION (ENGLISH) (US)	
	3-859-731-11	MANUAL, INSTRUCTION, INSTALL (ENGLISH, SPANISH, CHINESE) (E, Australian)	
	3-859-731-21	MANUAL, INSTRUCTION, INSTALL (ENGLISH) (US)	
**********			
		PARTS FOR INSTALLATION AND CONNECTIONS	
		**********	
501	X-3373-605-1	FRAME ASSY	
502	3-310-655-01	SUPPORT (ND), FITTING (US)	
503	X-3368-725-1	SCREW ASSY, FITTING (US)	
504	7-682-560-04	SCREW +P 4X6 (US)	
505	3-012-601-01	COLLAR (B)	
506	3-935-568-01	BRACKET (LOCK)	
507	3-934-325-01	SCREW, +K (5X8) TAPPING	
508	1-776-207-11	CORD (WITH CONNECTOR)	
509	X-3366-405-1	SCREW ASSY (EXP), FITTING (E, Australian)	
510	3-386-828-01	SCREW, FITTING (E, Australian)	
511	3-349-410-01	BUSHING (E, Australian)	
512	1-775-543-11	CORD, GROUND